THE LANCET

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

Telegrams—LANCET, WESTRAND LONDON *Telephones*—GERRARD 4314 & 4315 *Offices*—423, Strand, London, W.C.2

No. XV. OF VOL. II., 1924. **No. 5276. Vol. CCVII.** LONDON, SATURDAY, OCTOBER 11, 1924. Founded 1823. Registered as a Newspaper. Published Weekly. **Pp. 128—Price 1s.** Annual Subscription Inland £2 2s. Abroad £2 10s.

THE LANCET EXTRA NUMBERS.

For important announcement see pp. 9, 10, 11, & 12.

STERILITY IN WOMEN.

By ARTHUR E. GILES, M.D., B.Sc., Ch.B., F.R.C.S., M.R.C.P., Senior Surgeon to the Chelsea Hospital for Women, Gynæcologist to the Prince of Wales's General Hospital, Tottenham.

Demy 8vo. Cloth. 243 pages, Illustrated. Price 10s. net.

"For the General Practitioner this is an ideal book, full of information."—MEDICAL WORLD.

"The best that has been written on the subject."—BRIT. MED. JR.

Oxford University Press,
Humphrey Milford, Amen House, London, E.C. 4.

BY THE SAME AUTHOR.

DISEASES OF WOMEN (with Sir JOHN BLAND-SUTTON). 7th Ed. William Heinemann.

GYNÆCOLOGICAL DIAGNOSIS } Baillière,
AFTER RESULTS OF ABDOMINAL OPERATIONS } Tindall & Cox

NOW READY. ELEVENTH EDITION.

ROSE & CARLESS' SURGERY.

Thoroughly Revised. Many New Illustrations.

Pp. xii. +1570, with 17 coloured Plates, an X Ray Supplement and over 600 other Illustrations.

Price 30s.

"The best text-book of Surgery in English."—LANCET.

Baillière, Tindall & Cox, 8, Henrietta-street, London, W.C.2.

New Edition, Rewritten and Enlarged.

DISEASES OF THE HEART.

By JOHN COWAN, M.D., D.Sc., F.R.F.P.S., Physician to the Royal Infirmary, Glasgow, &c.; and W. T. RITCHIE, M.D., F.R.C.P.E., F.R.S.E., Physician to the Royal Infirmary, Edinburgh, &c.

Second Edition. 609 pages, 300 Illustrations. 30s. net.

"This well-written work is so admirably balanced that it is well fitted for students and practitioners."—*British Medical Journal.*

London: Edward Arnold & Co., Maddox-street, W. 1.

OXFORD MEDICAL PUBLICATIONS.

JUST PUBLISHED.

ARTIFICIAL SUNLIGHT AND ITS THERAPEUTIC USES.

By F. HOWARD HUMPHRIS, M.D., F.R.C.P., D.M.R. & E., Author of "ELECTROTHERAPEUTICS FOR PRACTITIONERS."

This is the first work written on Artificial Sunlight in England.

Demy 8vo. Illustrated. Price 8s. 6d. net.

Oxford University Press.
Humphrey Milford, Amen House, London, E.C.4.

SYPHILIS AND VENEREAL DISEASES.

By C. F. MARSHALL, M.Sc., M.D., F.R.C.S.Eng.; and E. G. FFRENCH, M.D., F.R.C.S. Edin., M.R.C.P. Lond., Lieut.-Col. R.A.M.C. (Ret.), late O.C. Military Hospital, Rochester Row, S.W.

Fourth Edition, revised and illustrated with 7 Coloured Plates and numerous Figures. Price 15s.

London: Baillière, Tindall & Cox, 8, Henrietta-st., Covent Garden.

By WILLMOTT EVANS, B.S., B.Sc., F.R.C.S., Consulting Surgeon, Royal Free Hospital.

DISEASES OF THE BREAST.

"Clearly written . . . admirably illustrated . . . thoroughly practical."—THE LANCET.

Demy 8vo. 508 pages, with 106 Illustrations (15 Coloured). 27s. 6d. net.

University of London Press, Ltd., 17, Warwick-square, London, E.C.4.

JUST ISSUED — NEW (8th) EDITION.

MALLORY AND WRIGHT'S PATHOLOGICAL TECHNIQUE.

AND OTHER BOOKS FOR STUDENTS

See Saunders' Advertisement on Page 7.

JUST PUBLISHED. Crown 8vo. Pp. viii. +180. Price 7s. 6d. (postage 6d.)

SURGICAL UROLOGY:

By WILLIAM KNOX IRWIN, M.D., F.R.C.S.

"Clearly written .... eminently practical .... we can thoroughly recommend it."—GLASGOW MEDICAL JOURNAL.

"Concise .... clearly written .... practical in outlook."—BRITISH MEDICAL JOURNAL.

"Well written and fully up to date. Should be of great assistance to the busy practitioner."—CLINICAL JOURNAL.

Baillière, Tindall & Cox, 8, Henrietta-street, London, W.C.2.

By H. D. GILLIES, C.B.E., F.R.C.S., Plastic Surgeon, Queen's Hospital, Sidcup; Prince of Wales' Hospital, London, N.; and St. Andrew's Hospital, Dollis Hill, London.

PLASTIC SURGERY OF THE FACE.

424 pages. 844 Illustrations. Price £3 3s.

Oxford University Press.
Humphrey Milford, Amen House, London, E.C. 4

By A. H. TUBBY, C.B., C.M.G., M.S.

Demy 8vo. 15s. net. 279 pages. 15 Illustrations.

A CONSULTING SURGEON IN THE NEAR EAST.

"This narrative of the War is one of the most interesting we have read. Being endowed throughout with the vitality of a personal record it is never dull."—MEDICAL PRESS & CIRCULAR.

"Altogether the book is well worth reading."—LANCET.

London: Christophers, 22, Berners-street, W.C.1.

JUST OUT.

DISEASES OF THE RECTUM AND COLON

AND THEIR SURGICAL TREATMENT.

BY

P. LOCKHART-MUMMERY, F.R.C.S.ENG., M.A., M.B., B.C.CANTAB., Senior Surgeon to St. Mark's Hospital.

Over Two Hundred Plates and Illustrations. Price 25s.

Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

DISEASES OF

THE MALE ORGANS OF GENERATION.

By KENNETH M. WALKER, F.R.C.S., M.A., M.B., B.C.

Price 12s. 6d.

"If andrology is fated to take its place in the overcrowded curriculum of medical study it could not have a more entertaining professor than Mr. Kenneth Walker."—BRITISH MEDICAL JOURNAL.

Oxford University Press. Amen House, London, E.C.4.

THE STRAPPING THAT GRIPS.

LESLIES ZŌPLA Zinc Oxide Plaster

A tenaciously self-adhesive Plaster which will not slip, however great the strain. Antiseptic.

NON-IRRITATING AND THOROUGHLY RELIABLE.

On white and flesh colour cloths, also on holland, on spools and in rolls. SAMPLES ON REQUEST.

USE ALSO OUR HOLLAND STRAPPING. THE ORIGINAL AND STILL THE BEST.

LESLIES LTD., High Street, Walthamstow, LONDON, E.17.

Farbwerke vorm. Meister Lucius & Brüning, Hoechst a. M., Germany.

GARDAN "Hoechst."

A combination of "Pyramidon" and "Novalgin" in **equimolecular proportions** possessing an enhanced action as

Antipyretic, Antirheumatic, Analgesic.

Indications: All kinds of pains, Polyarthritis, Neuralgia, Rheumatism, Lumbago, Sciatica, Infectious Diseases, Headache, Menstrual Troubles.

Dosage: grains 4–7½ (0.25–0.5 gm) thrice to four times daily.

Original Packages: **Gardan-Tablets**: Tubes containing 10 tablets of grains 7½ (0.5 gm).

Samples and Literature will be sent to Medical Men at any time on request through:

Telephone: ROYAL 2335. **A. C. HENRY, 19, St. Dunstan's Hill, London, E.C. 3.** Telegrams: "Eumydrin, Phone, London."

Copy of "Modern Therapeutical Agents" containing complete list of "Hoechst" preparations sent free on application.

VALENTINE'S PREPARATION
NUTRIO PRIME
MEAT JUICE.
The result of an original Process of Preparing Meat, and extracting its Juice by which the elements of nutrition are obtained in a state, ready for immediate absorption.
DIRECTIONS–Dissolve one teaspoonful of the Preparation in two or three tablespoonfuls of cold or warm water. The use of boiling water changes the character of the preparation.

Valentine's Meat-Juice

For Quieting the **Irritable Stomach, Aiding Digestion** and **Sustaining** and **Strengthening, Valentine's Meat-Juice** is employed in **Hospital** and **Private Practice** in the treatment of

Diseases of Children.

Dr. Raphael Raimondi, *Consulting Physician of the Montmartre Nurseries, Paris, France:* "I use VALENTINE'S MEAT-JUICE with Nurslings eighteen months to two years old. These very Weak Babies derive great benefit from the use of this tonic preparation. I give it to Debilitated Infants, after they are eighteen months old, in doses of one teaspoonful in thirty grammes of boiled water twice a day, and to be continued for a month."

Park B. Tucker, M.D., *Health Officer, Hamilton, Bermuda:* "I have found VALENTINE'S MEAT-JUICE invaluable for teething children, who readily take and retain it when they refuse everything else. It has also proved very palatable and strengthening in all cases of irritable stomach, especially to that peculiar nausea so often complained of from the abuse of ardent spirits."

For Sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,

D 117 **RICHMOND, VIRGINIA, U. S. A.**

THE LANCET

No. 5276. LONDON, SATURDAY, OCTOBER 11, 1924. Vol. CCVII.

CONTENTS

THE WHOLE OF THE LITERARY MATTER IN THE LANCET IS COPYRIGHT.

THE DIAGNOSIS of Acute Abdominal Illness in Children. By GORDON BRYAN, *M.C.*, F.R.C.S. . 737

AN ADDRESS on the Ideal Tooth. By Sir ARTHUR KEITH, M.D., F.R.C.S.. . 740

ORIGINAL ARTICLES.

An Apparatus for Use in the Sigma Reaction. By Prof. JOSEPH W. BIGGER, M.D., F.R.C.P.—(*Illustrated*) 743

On Influenzal Arthritis. With Notes of Three Cases of Infection of the Knee-joint in Children. By DAVID NABARRO, M.D., F.R.C.P., and J. F. H. STALLMAN, M.B., B.S., F.R.C.S..... 743

Report on Two Cases of Direct Injection into the Heart for Arrest of Heart Beat During Anæsthesia. By W. B. HOWELL, M.D. 746

Infective Endocarditis in Congenital Heart Disease Involving the Pulmonary Artery. By H. E. A. BOLDERO, B.M., M.R.C.P., and D. E. BEDFORD, M.B., B.S. .. 747

A Plea for the Preservation of the Premaxillary Bones in Congenital Cleft Palate. By ALBERT D. DAVIS, B.Sc., M.D., D.D.S.—(*Illustrated*).... 749

CLINICAL AND LABORATORY NOTES.

A Case of Iron-Stone Phthisis. By Sir KENNETH GOADBY, K.B.E., M.R.C.S., D.P.H. 752

An Unusual Form of Left Inguinal Hernia. By JOHN A. C. MACEWEN, M.B., C.M. 752

REVIEWS AND NOTICES OF BOOKS.

Social Insurance. What It Is and What It Might Be. By Alban Gordon, B.Sc., F.C.S. .. 753

Clinical Studies in Epilepsy. By Donald Fraser, M.D., F.R.F.P. & S. 753

Pathological Technique. By Frank Burr Mallory, A.M., M.D., and James Homer Wright, A.M., M.D. 754

Modern Methods of Treatment. By Logan Clendening, M.D. 754

Aids to Psychiatry. By W. S. Dawson, M.D., M.R.C.P., D.P.M. 754

L'Alimentation Naturelle chez l'Enfant. By Dr. Monteuuis 754

Infection and Resistance. By Prof. Hans Zinsser, M.D. 755

Instruments and Appliances for Operations. By Lieut.-Colonel Castor... 755

Hippocrates and His Successors in Relation to the Philosophy of Their Time. By R. O. Moon, M.D., F.R.C.P. .. 755

British Journal of Ophthalmology 755

Journal of the R.A.M.C. .. 755

NEW INVENTIONS.

A Modification of Davis Boyle Gag (R. Graham Brown, M.R.C.S.).—(*Illustrated*) 756

PUBLIC HEALTH SERVICES.

Reports of Medical Officers of Health: Bournemouth. — Hove. — Scarborough. — Torquay. — Leamington. — Lytham St. Annes 756

Infectious Disease in England and Wales 758

THE CONDUCT OF MEDICAL PRACTICE.

XX.—Income-Tax Assessments: How to Verify Their Correctness. By W. R. FAIRBROTHER, F.S.S. 758

LEADING ARTICLES.

THE FUTURE OF HEALTH INSURANCE 759

THE GROWTH OF THE JAWS 760

THE MAUDSLEY HOSPITAL 761

ANNOTATIONS.

The Supply of Drugs to Addicts 762

Dangerous Drugs in General Practice 762

Eugenics by Legislation... 762

The Results of Conservative Treatment of Pott's Disease 763

A Cardiovascular Symposium 763

Retinitis Pigmentosa 764

An Ad Hoc Research 764

The Royal Commission on Lunacy 765

In Honour of Dr. Brackenbury 765

The Food Investigation Board 766

Voluntary Hospitals in Great Britain 766

MODERN TECHNIQUE IN TREATMENT.

A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.

XCI.—The Treatment of Post-menopausal Hæmorrhage. By GILBERT I. STRACHAN, M.D., M.R.C.P., F.R.C.S. 767

SPECIAL ARTICLES.

The Working of the Insurance Medical Service: The Work of the Year.. 768

National Health Insurance under the Welsh Board of Health 771

Medicine and the Law: The Charge against Dr. Hadwen 771

St. Mary's Hospital Medical School: Post-graduate Course 772

Berlin: An Unknown Disease Among Fishermen 774

Paris: The Approaching Hygienic Congress in Paris 775

British Orthopædic Association: Meeting at Bologna, Italy.—(*Illustrated*) 776

Maternal Mortality: Conference at the Royal Society of Arts 777

The London Medical Exhibition: A Review of the Exhibits 779

CORRESPONDENCE.

Fact and Theory in Radio-Therapy (Prof. Sidney Russ)..... 781

Dental Dressers (Dr. Sidney Barwise) 781

The late Mr. W. H. A. Jacobson (Dr. R. Gillbard)..... 782

The Healthy Heart (Mr. D. F. Shearer)..... 782

The Sleeplessness of Encephalitis (Dr. R. H. Norgate) 782

Experiment and Observation (Dr. Edmund Hughes) 782

The New Methylated Spirit 783

Obstinate Constipation.... 788

Emotional Arrest of Hemorrhage 788

Green Apples (Prof. C. Lovatt Evans)..... 788

THE SERVICES.

Royal Naval Medical Service.—Royal Army Medical Corps.—Royal Air Force.—Indian Medical Service..... 783

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics: Reassembling of Parliament 783

House of Commons: Revision of Pension Warrant, 1919.—Physical and Mental Condition of Murderers.—Medical Opinion and the Smoke Nuisance.—New Form of Death Certificate.—Procreation of Unfit Children.—Lee Commission and Indian Medical Service.—Reform of Public Health Laws.—Sir George Newman and Public Health Administration.. 783

MEDICAL NEWS.

University of London: University College.—Parliamentary By-Election 784

Hospital Dinners: London.—Middlesex.—St. Mary's—St. Bartholomew's.—St. George's. — King's College.—Westminster.. 784

University College Hospital Medical Society 749

Leeds City Council's Subsidy to Hospitals .. 766

Yorkshire Tuberculosis Society 772

Society for the Study of Inebriety 777

Street Noises in Manchester 777

London Hospital Medical College 785

Royal Institute of Public Health 785

Scottish Board of Health Consultative Councils .. 785

Retirement of Dr. E. W. Hope 785

Hospital for Sick Children, Great Ormond-street ... 786

Missions to Lepers..... 786

Chadwick Lectures 786

St. Thomas's Hospital Medical School 786

The late Mr. John Quiller Rowett, LL.D. 786

Harveian Society of London 786

Royal Commission on National Health Insurance..... 786

NOTES, COMMENTS, AND ABSTRACTS.

"Health Week" 788

New Open Spaces for London 788

Year-Book of Scientific and Learned Societies 788

An Ungrateful Patient.... 788

Medical Diary 786

Appointments.—Vacancies 787

Births, Marriages, Deaths.. 787

THE PNEUMOCOCCUS & PNEUMOCOCCAL AFFECTIONS. By **L. COTONI, C. TRUCHE** and **Mlle. A. RAPHAEL.** English Edition by D. S. PAGE, M.A., M.B. Cantab., D.P.H., Assistant Pathologist to the City of London Hospital for Diseases of the Heart and Lungs; and EVA MORTON, M.R.C.S. Eng., L.R.C.P. Lond., late Assistant Medical Officer, Grove Hospital, Tooting. With numerous Figures and Charts. **16s.** net; post free, 16s. 9d. [*Just published.*

ON FACIAL NEURALGIA & ITS TREATMENT. By **J. HUTCHINSON,** F.R.C.S., Consulting Surgeon to the London Hospital. With special reference to the Surgery of the Fifth Nerve and the Gasserian Ganglion. Second edit. 37 Illustrations. Reduced to **7s. 6d.** net; post free, 8s. 3d.

STEPPING-STONES IN THE PROGRESS OF SCIENCE. By **ARNOLD ROWSBY TANKARD,** F.I.C., Public Analyst and Bacteriologist for the City of Kingston-upon-Hull. **1s. 6d.** net; post free, 1s. 8d.

JOHN BALE, SONS & DANIELSSON, Ltd., 83-91, Great Titchfield Street, London, W.1.

Vol. I (1924) of the Extra Pharmacopœia

By MARTINDALE & WESTCOTT

IS NOW READY. **27/6** net; post free 28/-.

The book embodies the results of a vast amount of research in **Chemistry, Pharmacology,** and the closely **allied sciences.**

It is claimed that **no modern Medicinal Chemical, Drug, Organo-therapeutic Agent** or **Vaccine,** worthy of inclusion has been **omitted.**

The **handy little volume,** containing 1163 *plus* xxxviii. pp., should find a place in every consulting room, pharmacy, and laboratory as a reference book in matters appertaining to the therapeutic use of drugs and chemicals.

Not only is the medical and chemical literature, one might say, almost of the world, summarised concisely up to within a week or two of publication, but data are given concerning **Practical Laboratory work** and **experimental trials** of **new therapeutic agents** not to be found in other treatises.

It is only possible to give an outline of some of the new information:

NEW CHEMICALS, DRUGS, AND METHODS OF TREATMENT.

ALKALOIDAL NOTES.—This chapter contains some interesting observations regarding **"Activated" Alkaloids,** and in addition the description of a series of **Alkaloidal Periodides.** The preparations may in both cases be useful additions to the physician's armamentarium.

ASPIRIN COMPOUNDS include therapeutic notes upon various new halogen derivatives.

BISMUTH, ORGANIC COMPOUNDS. — The pros and cons of these competitors of mercurials and their chemistry are described in 6 pages.

COLLOIDAL METALS. —The chapter contains as new, **Colloidal Calcium, Colloidal Lead,** also notes upon the **Colloidal Gold** treatment of Neurasthenia, Alcoholism and the morphine habit.

The Diagnosis OF ACUTE ABDOMINAL ILLNESS IN CHILDREN.

A Post-Graduate Lecture given at St. Mary's Hospital Medical School on Oct. 6th, 1924.

By GORDON BRYAN, *M.C.*, F.R.C.S. Eng.,

SURGEON (WITH CHARGE OF OUT-PATIENTS), ST. MARY'S HOSPITAL, PADDINGTON GREEN CHILDREN'S HOSPITAL, AND THE HAMPSTEAD GENERAL HOSPITAL.

To deal with so wide a subject as that of my lecture I must, of course, in the time at my disposal, confine myself to the consideration of a few only of its aspects: I have, therefore, attempted to select those rather of everyday interest and practical importance, but I discuss these with some diffidence, for I realise that your work as family practitioners gives you opportunities among children to some extent denied to the consultant.

It is obvious that there are certain differences between the ways in which abdominal conditions present themselves in adults and in children; in some respects the diagnostic problems of children are simpler, in other respects the difficulties are greater than in adults. In older patients, for instance, we place great reliance on the history and the subjective symptoms, which in children may be of little assistance. A detailed history, patiently elicited without leading questions, will often give the clue to an abdominal diagnosis; but a child is usually unable to give an accurate account of his illness, and may be too shy or too young to describe subjective symptoms at all definitely. In these matters the parent or nurse can be useful, but her description of the illness may be, and often is, indefinite and liable to exaggeration. The young patient, however, should always be asked to point to the pain, and he can usually be relied upon to localise this with some accuracy if it is in his abdomen.

The Onset.

In adults, again, the onset of acute abdominal illness is generally marked by symptoms which point directly to the abdomen, whereas there are many exceptions to this rule in children; in these early years most abdominal emergencies are due to lesions of the alimentary canal, and yet it is not uncommon for the most obvious symptoms of onset to direct attention elsewhere. For instance, the local condition may be masked by the intensity of early toxæmia, or the symptoms may indicate disease of the lower limb or of the urinary tract rather than of the intestines.

In his examination, the consultant who is a stranger to the child is in some degree handicapped; on the other hand, in arriving at a decision he may have some advantage over the regular medical attendant; with the latter the child is likely to be sufficiently familiar to give his confidence and allow a thorough examination, whereas with a stranger the little patient is likely to be shy and frightened, so that extra time must be allowed for quietly gaining his trust before the objective examination is commenced. The consultant, however, has an advantage in seeing him with a fresh and unbiased mind, for (as has often been pointed out before) frequent attendances for previous trivial ailments and repeated visits during the illness of the moment are apt to produce prejudice or indecision—the state of mind that has been called by John Fraser "clinical staleness"; so that we may impress on ourselves the necessity of the doctor being constantly on his guard against overlooking new developments of the disease, and the progress of signs and symptoms already noticed at previous visits. Also, the child's vivid memory of the first examination often causes sufficient fear to make subsequent investigations more difficult, and for this reason it is of supreme importance that the primary examination should be particularly thorough, and it should be our definite aim to arrive at any rate at a tentative diagnosis on this occasion. While the condition is in doubt, let me again lay stress on the importance at each visit of consciously trying to free one's mind of previous impressions, so as to avoid that biased judgment that I have already mentioned. Again, as a general rule, one may say that it is more important in children than in adults to diagnose acute abdominal disease promptly, because children are less able to withstand the effects of disease, and the delicacy of their tissues makes surgical intervention of special urgency in many cases. The general effects of acute abdominal inflammation are likely to be very severe, and toxæmia, shock, and collapse may reduce a child to a dangerous state in a very few hours.

Objective Methods of Examination.

Of the objective methods of examination that are available in acute abdominal illness, in children, palpation of the abdomen and rectal examination are of most importance; in every case also the chest must be carefully examined and the urine must be tested. In palpating the abdomen three signs are to be borne in mind especially—the situation of the maximum tenderness, confirming any information already given by the patient as to the point of greatest pain, general or localised rigidity, and the presence of a palpable tumour.

To make a satisfactory *examination of the abdomen* of a child, especially the nervous or spoilt child, or one frightened by previous investigation, one must gain his confidence, and for this purpose one must have his full attention. It therefore often becomes necessary to exclude parents from the room during the objective examination; when called in as a stranger to the household one may feel a little diffidence in this matter, but tact and the presence of the regular practitioner usually make it possible for the consultant to examine the patient away from the relations. Even then it is not uncommon for children to resist examination so obstinately that palpation in the ordinary way is impossible, and in these cases very light anæsthesia—just sufficient to quieten the child but not enough to mask abdominal rigidity—will prove of the greatest value. In suspected intussusception also anæsthesia is often necessary for the palpation of a tumour or to exclude this possibility.

As to *rectal examination*, I feel that I cannot stress too strongly the value of this method of investigating a child's abdomen; it must always be employed in cases with acute symptoms pointing to abdomen or hip-joint. I have noticed sometimes that newly-appointed house surgeons at the Children's Hospital show some hesitation in examining the rectum of an acutely ill child, until it is pointed out how comparatively little discomfort is caused to a child by this procedure. Certainly it may be expected to frighten the patient at first, but if the finger is introduced slowly and then the examiner waits and reassures the child until he is quiet, a very thorough exploration of the pelvis can be made; the sphincter ani in childhood is usually lax and the small size of the pelvis and delicacy of the abdominal wall enable one to approximate the rectal finger to the hand outside very closely, so that the possibility of an inflamed viscus in the pelvis can be excluded with more certainty than is always possible in adult cases.

I must mention two important *aspects of the urine* examination that are of special importance in childhood: they are the possibility of acetonæmia and signs of pyelitis. A simple test for acetone is to add to the urine in a test-tube an equal quantity of a saturated solution of ammonium sulphate, and then a few drops of strong ammonia; a small quantity of a 5 per cent. solution of sodium nitroprusside produces a deep purple colour if acetone is present. In a case of pyelitis the urine is acid and opalescent; a drop taken from the centre of the specimen and examined with the microscope will show the presence of pus cells

and *Bacillus coli* if the ureter of the affected kidney is patent.

DIFFERENTIATION.

The surgical possibilities of acute abdominal illness are less numerous in the early years than in adults, for, of course, we can exclude large groups of diseases common in adult life, such as malignant growths of the colon, chronic ulceration of stomach and duodenum, and chronic disease of the gall-bladder. There are, on the other hand, certain emergencies which almost exclusively belong to infancy and childhood, of which I may instance intussusception and the effects of certain errors of development of the alimentary canal.

Selecting, then, some of the acute illnesses of surgical importance which occur frequently among children, we must discuss appendicitis; peritonitis in its pneumococcal form; the later effects of abdominal tuberculosis, and especially intestinal obstruction and mesenteric adenitis; volvulus, intussusception, and strangulated hernia; iliac abscess, in addition to the variety resulting from appendicitis; acute pyelitis; abdominal influenza and simple colic; and acute acetonæmia or cyclic vomiting.

APPENDICITIS IN ITS VARIOUS FORMS.

The commonest surgical emergencies may be considered the most important, so I need make no apology for dealing first with certain aspects of appendicitis in children. The clinical picture varies according to the position that the appendix occupies in different cases; when it lies in its commonest position in the right iliac region we may expect a fairly typical picture in children, for they are less liable to the confusing influence of outside factors that often are present in adults, particularly concurrent disease elsewhere. The order of incidence of the early symptoms is of great importance in the diagnosis; Murphy called attention to the way in which these symptoms follow one another in the typical order of *midline pain*, *vomiting*, *right-sided pain*, and *fever*. In children, when dealing with the first attack as we so often are, there is frequently a history of preceding infection elsewhere, particularly of the tonsils. The initial pain is either generalised or localised to the epigastric or umbilical region.

Vomiting in children near the commencement of an attack of appendicitis is almost invariable, but it is sometimes absent when the appendix is retro-colic and shut off from the peritoneum, and occasionally in pelvic cases. In adults, on the other hand, this symptom is replaced by nausea or retching. Persistence of the vomiting in a child indicates distension of the organ, and should bring the risk of early perforation to our minds. When the pain shifts to the right side of the abdomen tenderness and some degree of rigidity will supervene. The early fever of appendicitis in the young is usually higher than in adults.

Of the physical signs the strongest positive evidence one obtains in the early stages is the palpation of a tender and swollen appendix through the abdominal wall; in children, when the appendix is in its typical situation, one can feel it with the flat of the hand in a large proportion of cases, even if rigidity is present. Patience may be required, for one often has to wait 15 minutes or more with the hand on the abdomen until the child breathes freely and partially relaxes his abdominal muscles; but the time is well spent, for one is enabled to advise immediate operation with a special feeling of confidence in such cases.

But it is not unusual for the appendix to lie in other situations, and the symptoms will vary accordingly. We must therefore briefly consider those cases in which the appendix lies in the pelvis, behind the termination of the ileum and its mesentery, behind the cæcum or ascending colon, and high up under the liver in association with an undescended cæcum.

In *pelvic appendicitis* there are certain special symptoms and signs, particularly in the early stages, which may distract the attention of the parents and even of the doctor from the alimentary canal, and delay correct diagnosis. Pain on micturition and frequency are common symptoms of pelvic appendicitis in the young, and may be so prominent as to lead to errors of diagnosis. I recall the typical case of a baby of 18 months who was admitted to hospital because he screamed with pain whenever he passed urine; this was the only symptom noticed and the possibility of vesical calculus had been suggested. On our way to see the case I told the dressers that appendicitis was the commonest cause of suddenly painful micturition in young children, and bimanual examination revealed the presence of a pelvic appendix abscess. Diarrhœa is another early symptom from the close relation of the inflamed organ to the rectum; it is apt to recur at a later stage if the condition goes on to abscess formation. Abdominal examination may give little assistance, but there is usually some tenderness above the pubis close to the midline.

Before leaving the subject of pelvic appendicitis, let me mention the obturator sign—pain produced by rotating inwards the flexed right thigh—for this brings to mind a certain type of onset in children, in which the possibility of the presence of appendicitis may be entirely overlooked. The child complains of pain in the right thigh or knee, or is noticed by the parent to be limping; on examination of the hip and knee nothing definite is found, but examination of the abdomen sometimes reveals slight hypogastric tenderness. Rectal examination shows the true nature of the case, for a swollen, tender appendix is felt on the right side of the pelvis. Several such cases have limped into my out-patient departments, and this condition must always be kept in mind when examining a child with pain of acute onset in the right lower limb.

The Retro-ileal Appendix.—Here the appendix lies behind the last part of the ileum and its mesentery, and causes the special symptoms of acute, though partial, obstruction of the small intestine. Vomiting is severe and persists to a later stage than is usual with the ordinary iliac type of appendix; the pain is spasmodic and the small intestine soon becomes distended. These two factors lead to early exhaustion and a special severity of general symptoms, as indicated by the loss of tissue fluids from the face and the rapidly rising pulse-rate. The maximum pain and tenderness are situated at or near the middle line, but there is often very little rigidity until a late stage of the illness, for the distended intestinal coils form a cushion separating the appendix from the abdominal wall and protecting it from palpation. This type of appendicitis is to be regarded as specially dangerous for several reasons—the diagnosis is difficult and apt to be delayed; in fact, a small retro-mesenteric abscess may not be suspected at all until it ruptures into the general peritoneal cavity. In this type, too, the protective omentum, so valuable in shutting off infection, is kept out of the way by the coils of intestine below it; again, the meso-appendix is short and œdematous and causes special technical difficulties in the removal of the offending organ and the control of its vessels. Lastly, there is a liability to the development of fæcal fistula during the after-treatment, and this is a less trivial complication in children than in adults. For these cases an adequate incision is particularly indicated, and consequently there may be more trouble than usual from sloughing of the abdominal wall and its resultant toxæmia.

With the *retro-cæcal or retro-colic appendix* there is usually present the congenital structure known as Jackson's membrane, which passes from the front of the cæcum and ascending colon to the right side of the abdominal wall, and separates the appendix from the general peritoneal cavity. Owing to this retro-peritoneal position of the inflamed appendix there may be no initial vomiting, and there is as a rule no rigidity of the anterior abdominal wall; the special sign to be looked for is rigidity of the loin in the ilio-costal space, and this region may show bulging and œdema if the condition goes on to abscess. The close relation of the appendix to the psoas muscle gives us a sign which should be examined for with the patient turned on to his left side; attempted

hyperextension of the right hip causes pain in the right abdomen or loin.

The *high appendix*, lying in relation to the liver, congenital in form, and associated with an undescended cæcum and undeveloped ascending colon, causes tenderness and rigidity of the right hypochondrium, but these signs may be obscured if the inflamed viscus lies deep under cover of the liver; such cases may be difficult to diagnose from disease above the diaphragm, for there is often inflammation of the peritoneum covering this muscle, with resultant dyspnœa, activity of the alæ nasi, and cyanosis. A sign that is often of value in distinguishing this form of abdominal inflammation from pleuro-pneumonia is the eliciting of pain on the right side of the abdomen by pressure on the abdominal muscles of the left side. The rapidity with which, in a child, appendicitis develops into a dangerous stage cannot as a rule be estimated, depending as it does on the exact state of the inflamed structure; one is frequently impressed with the delicacy and thinness of the walls of a child's appendix, allowing perforation to take place a very few hours after the appearance of the first symptom.

CONDITIONS SIMULATING APPENDICITIS.

Next, I have to mention certain varieties of acute abdominal illness in childhood which may simulate acute appendicitis somewhat closely, and in one of them especially, operation would be disastrous. I refer next, then, to acute pyelitis, and to acute acetonæmia. I use the term *acetonæmia* advisedly, rather than cyclic vomiting, for the latter name rather conveys the impression of recurrent attacks with vomiting as the main symptom. Now, every year in the early spring, I make a point of warning house surgeons to be on the look-out for cases of acetonæmia, sent to hospital with a diagnosis of acute appendicitis. Such cases, often with no history of a previous attack, usually occur about March or April in children between the ages of 3 and 6 years, and the symptoms may simulate those of appendicitis very closely. The child is suddenly seized with severe vomiting and abdominal pain; on examination of the abdomen one finds general tenderness, due, perhaps, to the effort of repeated vomiting, and the distended cæcum and liver may be specially tender; it is this right-sided localisation of maximum tenderness that causes the simulation of appendicitis. There is fever, and the child seems seriously ill and exhausted; the facial appearance is characteristic—dark and shrunken under the eyes, with general pallor contrasting with the bright-red lips. If the tongue is inspected it is found to be coated, and at the same time the odour of the breath should be noted—the characteristic sweet smell of acetone. So marked is this smell in some cases that it can be noticed on entering the room or ward in which the patient lies. The child is lethargic but sleepless, and there is usually a history of loss of energy, anorexia, thirst, and constipation going back for some days previous to the onset of acute illness. In the more severe cases there is restlessness progressing to delirium and semi-coma. The diagnosis is to be confirmed by the finding of much acetone in the urine. Among these cases the most anxious are those in which local signs indicate that the appendix is involved in the distension of the cæcum, a result, of course, of the constipation; in several such cases one has been able to palpate the appendix, and very great may be the temptation to operate under the impression that the primary condition is appendicitis and the acetonæmia is secondary. There can be no question, however, that the safer policy is to wait, for an anæsthetic is, of course, definitely contra-indicated, involving the gravest risk of the disaster of delayed anæsthetic poisoning.

We know that a small degree of acetonuria is not uncommon in children with no clinical symptoms, but revealed by examination of the urine, and this is especially common in alimentary illness; should operation be urgently needed in such cases, every precaution must be taken, and gas-oxygen in combination with local analgesia is the method of choice.

Acute pyelitis occurs in girls; unlike appendicitis, fever is the initial symptom, there may be rigors, and toxæmia is early and severe. There is tenderness high up near the middle line of the abdomen, causing simulation of appendicitis. The diagnosis rests on examination of the urine, which is acid, opalescent, and contains pus cells and bacteria.

Abdominal influenza usually commences with vomiting, and headache is a prominent symptom. I only mention this illness to give a warning against mistaking the tenderness of the abdominal muscles for rigidity from underlying peritonitis.

An attack of *simple colic* and *constipation* in a child may give rise to anxiety, for the symptoms may simulate appendicitis; the typical order of incidence of symptoms is, however, absent, there is no true rigidity, and tenderness disappears between the attacks of colic. The diagnosis is confirmed by the rapid subsidence of symptoms after the application of a hot fomentation to the abdomen and the evacuation of the bowel by an enema.

Inflammation of the ileo-cæcal lymphatic glands frequently occurs in children and causes a transient illness that may very closely resemble appendicitis. The patient is subject from time to time to attacks of acute abdominal pain, with vomiting, and right iliac tenderness and rigidity; the glands can be palpated as an indefinite mass protected by the rigid rectus muscle—a mass that cannot, as a rule, in the early stages, at any rate, be diagnosed from the tumour that is formed by an inflamed appendix wrapped round by omentum. So similar are the two conditions that operation is usually carried out, whereby the true nature of the condition is revealed. In cases seen on the first day of the illness exploration is the safest policy; if, however, the case has been kept under observation without operation for two or three days, mesenteric adenitis can be diagnosed by the fact that the signs and symptoms tend to remain unaltered during this time, whereas in acute appendicitis they advance or recede.

Iliac abscess may arise from a variety of causes; one form is due to inflammation of lymphatic glands causing an abscess immediately above Poupart's ligament, and if on the right side this simulates an appendix abscess; it is, however, possible to diagnose it by the absence of peritoneal symptoms, the presence of enlarged femoral or inguinal glands, and possibly the finding of the primary focus of infection either in the form of a septic abrasion or furuncle or a recently healed scar.

Pneumococcal Peritonitis.—In children it is the primary form of pneumococcal peritonitis with which we are concerned, and the cases fall into two classes: those of extremely acute onset and rapid progress leading to an early fatal termination, and those of less acute onset resulting in a pelvic abscess. The disease affects girls over the age of 5, who almost invariably belong to the poorer classes, and is probably due to the infection gaining access to the pelvic peritoneum through the genital tract, at any rate, in the less acute cases. The more acute ones are possibly infected through the blood-stream; in the latter class of case there is a sudden onset of acute toxæmia with abdominal pain, vomiting, and diarrhœa. So severe is the illness that the child may be delirious and even comatose in a few hours, and rapid drainage of the peritoneum offers the only hope of saving life. In the subacute form of the disease there are diarrhœa, gradually increasing fever, and signs of peritonitis in the lower part of the abdomen. An abscess becomes localised, filling the pelvis and gradually rising above its brim. Sometimes these cases are so chronic that tuberculous peritonitis is simulated, the abscess reaching as high as the costal margin and pushing the intestines up under cover of the ribs; these cases may be distinguished from tuberculous peritonitis by the absence of shifting resonance, and the fact that in spite of complete rest in bed the disease progresses, as

shown by the rising hectic temperature and gradual increase in size of the abdomen.

Gonococcal peritonitis occasionally occurs in young girls; the illness has an insidious onset and closely resembles the subacute form of pneumococcal peritonitis; the diagnosis rests on the history or signs of vulvo-vaginitis and possibly the identification of the specific organism.

INTESTINAL OBSTRUCTION.

Turning now to intestinal obstruction, apart from defects of development which cause symptoms immediately after birth, there are four conditions of special interest and importance in childhood, *intussusception*, *volvulus of the small intestine*, obstruction from the *adhesions* of old tuberculous peritonitis, and *strangulated inguinal hernia*. The typical picture of intussusception in infancy is too well known to you to need comment here, but when no tumour can be felt the diagnosis is often difficult. During the first few hours of an attack of acute entero-colitis with bleeding from the rectum, intussusception may be suspected and somewhat difficult to exclude; in addition to the passage of blood, there is screaming from colic, and abdominal palpation is rendered inconclusive by tenderness. The diagnosis rests on the absence of the typical intermissions in the spasms of pain, the absence of a tumour, and the fact that the blood is bright red and accompanied by loose fæcal material instead of forming, by admixture with mucus, the characteristic dark-red jelly of intussusception. In doubtful cases an anæsthetic should be given in order that a thorough search for the typical tumour may be made.

The specially difficult cases of intussusception are the enteric and the colic forms, and these often are diagnosed too late for successful treatment; in the former variety, the vomiting is severe and continuous, there is rapid collapse, the appearance of blood is delayed, there is no loss of normal resistance in the right iliac fossa, and it is often very difficult to feel a tumour owing to its comparatively small size and the fact that it may be hidden away under the liver. The rare condition of retrograde enteric intussusception must be borne in mind, and in this condition there is no blood and mucus in the rectum. Colic intussusception may take a subacute form, with less severe general symptoms, as for several days there may be no obstruction to the passage of fæces; careful palpation will, however, reveal the presence of the tumour and clinch the diagnosis.

The most serious difficulty in the diagnosis of intussusception is the simulation of this condition by cases of *Henoch's purpura* in which bleeding into the wall of the bowel takes place; the patient then may have acute abdominal symptoms with partial obstruction, there is a tumour in the iliac fossa due to the infiltration of the bowel with blood, and blood and mucus are passed by rectum. The condition is commoner in boys above the usual age for intussusception, and its recognition depends on the finding of other signs of purpura, such as scattered petechial hæmorrhages of the skin, subcutaneous bruising, and a history or signs of hæmarthrosis, while the abdominal tumour lacks the typical shape and mobility of an intussusception. The diagnosis, may, however, be a matter of the greatest difficulty.

Obstruction by Adhesions.—Apart from intussusception and congenital defects of the intestine, there are a limited number of causes of acute intestinal obstruction in childhood; antecedent tuberculous peritonitis is responsible for most of the cases. Here the obstruction is rarely complete in the first attack, and there is nearly always a history of previous illnesses with vomiting, colic, and constipation, relieved after a few hours by the passage of large loose stools. If such cases have to be operated on when obstruction is complete, a serious problem arises, for in a child enterostomy offers small hope of recovery. Our aim must be, by diagnosing such cases early, with the assistance of X rays, to operate in an interval between attacks, and perform some variety of short-circuiting operation whereby the affected coils of intestine are excluded.

Volvulus in children differs from the type met with in adult life by affecting the small intestine; it occurs where there is a long mesentery with a narrow attachment. In a typical case the attack is brought on by some sudden movement, and the symptoms are those of high small intestine obstruction—severe and persistent vomiting, spasms of acute pain, and rapid collapse; it is not unusual for one or more stools to be evacuated from the intestine below the obstruction. Poynton has described cases in which acetonæmia was a predominating feature, and he shows the risk of diagnosing primary cyclic vomiting; in his cases there had been previous similar attacks, due probably to torsion of the intestine which was relieved naturally. The difficult feature of these cases is the absence of abdominal signs; owing to the rotation affecting so high a part of the small intestine there is no distension, and the poisoned and collapsed condition of the patient masks the tenderness due to the obstructed coil.

True *strangulation of a hernia* is rare in babies and small children, for though irreducibility and obstruction occur fairly commonly, the blood-supply of the intestine is rarely affected seriously. The tender tense hernia could hardly be overlooked, and the vomiting and constipation indicate the obstruction. Occasional difficulty arises in distinguishing an irreducible omental hernia from inflamed inguinal glands; in the former it is usually possible to trace the swelling into the abdomen, with the latter one can find the healed or unhealed skin lesion responsible for the infection. In doubtful cases we have the satisfaction of knowing that the diagnosis is not of great urgency owing to the absence of true strangulation; also, few of these cases need operation, for most strangulated herniæ in young children will slip back if the colon is emptied by an enema, the child is partially suspended by the legs, and a hot formentation is applied to the swelling.

References.—John Fraser: Brit. Med. Jour., February, 1922. Poynton: THE LANCET, May, 1924.

An Address

[ABRIDGED]

ON

THE IDEAL TOOTH.

Delivered at the Royal Dental Hospital, Leicester-square, London, on the Opening of Session and Presentation of Prizes, Oct. 1st, 1924,

BY SIR ARTHUR KEITH, M.D. ABERD., F.R.C.S. ENG.,

HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ON a recent occasion I had the pleasure of listening to an address given by an eminent statesman to an audience made up, for the greater part, of medical men. He was in the happy position of being able to say that at no point of a long and busy life had he required help from either physician or surgeon. Such an experience must be exceptional; few men and women do reach the age of 70 without calling for medical aid. I should think that 90 out of every 100 have settled, or should have settled, several doctors' bills before reaching the age of 70. The statesman said nothing of his teeth, but if he reached the age of 70 without having to seek the aid of a dental surgeon, then his lot was better than falls to 999 out of every 1000 septuagenarians. If we were to make a survey of the dental conditions which prevail at the present time in Great Britain, confining our attention to the mouths of men and women of the age of 60 and upwards, I do not think we should find even one in a

thousand who retains a full undamaged outfit of teeth, and who can boast that on no occasion has there been need of dental aid. I think that a strict survey would show us that, as a general rule, we have to visit our dentist five times for every occasion we have to call in medical aid. It would appear, then, that of all the structural systems which make up that wonderful piece of machinery, the human body, the dental system is that which is most liable to break down.

NATURE AS DESIGNER AND WORKMAN.

There was a time when the design and workmanship of our bodies commanded the unstinted admiration of anatomists. In these modern days, however, there has arisen a critical school, founded by the late Prof. Elie Metchnikoff, which calls in question both the design and workmanship of the human body. Metchnikoff held that there were glaring imperfections in the contrivance of many of its parts. He cited as an instance man's great bowel, in which are included both cæcum and appendix. He held that, so far as modern man is concerned, the presence of a great bowel was a mistake; it merely served as a filth sink; it was a constant menace to health and the cause of misery in untold millions of lives. If a liability to become disordered, to become the seat of pain and a source of misery, is a reliable index of imperfect design and workmanship of an organ or of a system of organs, then Nature's attempt to fit modern man with an efficient dentition is an utter failure. I am putting the matter from a Metchnikoffian point of view; as will be seen in the sequel I hold a brief for Nature—both as designer and workman.

It is far from uncommon to meet with men and women who in their sanest and soberest moments, when their judgments are undisturbed by pangs of pain, give utterance to the conviction that Nature's "teeth are more bother than they are worth." They are convinced that it would be better for human health, happiness, and efficiency if our jaws retained the edentulous condition of birth and that we should be better to depend, from infancy to old age, upon artificial dentures than upon Nature's efforts. Such critics are prepared to pay golden guineas for artificial teeth rather than accept Nature's two sets as a free gift. Yet, on the production of these two sets—a milk set of 20 members and a permanent set of 32—52 all told—Nature has lavished her ingenuity to the utmost. It would be strange, indeed, if Nature after spending millions of years in perfecting her dental handiwork should now turn round on modern man and undo in his body her endless endeavours to reach perfection. Is it possible that city-living man is doing something which frustrates her best efforts to give him a healthy body?

Disharmony between Structural Outfit and Civilisation.

Those who criticise Nature's dental workmanship can cite many pieces of evidence in support of their contention. They may instance the baby fretting, slobbering, restless, as it cuts its first teeth: why should the eruption of teeth be attended by pain? Then, when the milk teeth have cut and are in use, half of them, before they have done their full duty, become the subjects of caries. The teeth, which we ironically name "permanent," render their owners open to many kinds of trouble. When they cut they may find the jaws too small to give them a place in a regular series; upper and lower teeth may be so badly placed that they fail to make proper contacts in the acts of biting and chewing. When the "permanent" teeth have come into use, half of them fall victims to caries before the age of 50 is reached. If they escape caries they may fall victims to pyorrhœa, or gumboils may form at their roots. The four final molars—the wisdom teeth—may be suppressed altogether, or if formed, they may fail to erupt or erupt painfully long after youth is past. The rarest sight in modern mouths is a tooth worn to its neck from use. When modern man enumerates his dental woes, it is clear that either Nature is neglecting him or he is neglecting Nature. On whichever side the fault may lie there is, without doubt, a grave disharmony between the structural outfit of man's body and the conditions with which modern civilisation has surrounded it.

The Artificial Tooth and the Natural Tooth.

Now, every form of fault-finding or criticism is idle unless we can say exactly where the fault lies and how it can be mended. Let us for a moment conceive ourselves as occupying Nature's place, and, endowed with all her powers, given the problem of evolving an ideal kind of tooth for modern man. We expect a tooth which is proof against every form of infection. The modern dentist has solved this problem; artificial dentures are liable neither to caries, pyorrhœa, nor gumboil. We expect a tooth which is painless under all circumstances; the modern dentist has solved this problem too. The ideal tooth must be so shaped as to perform its work efficiently. In this respect the modern dentist can teach Nature nothing, for he moulds artificial teeth as closely to Nature's shapes as his art will permit him. The teeth of an ideal set must be so placed that upper and lower meet in perfect apposition. The modern dentist can avoid Nature's glaring errors of malplacement, but he cannot rival her accuracy when she works in her normal mood. We expect the ideal tooth to be durable—to be made of material which will withstand 70 years of wear or more. The modern dentist has solved this problem too. The ideal tooth must be made of a material or materials, which are not only durable, but are free from brittleness; they must be able to withstand all legitimate strains and stresses without fracturing, cracking, or breaking. In this respect Nature's materials—a core of tough dentine, crowned by a covering of hard enamel—outclasses all modern inventions. She has hit on ideal substances and arranged them in our teeth in an ideal manner. Further, the ideal tooth has to be firmly fixed in the jaws, and must give the feeling when placed in our mouths of being, not a foreign thing, but an intrinsic part of our bodies. The best of artificial dentures falls far short of this ideal, yet it is one which Nature, in her normal moods, can attain with certainty. The most eminent and skilful of modern dentists would never dream of claiming that his best can rival Nature's best. I cannot believe that the day will ever come when men and women will prefer an artificial denture to Nature's outfit, except under the pressure of necessity.

The Function of the Pulp.

In our search for an ideal dentition, then, we cannot conceive any better than that invented by Nature. Can we suggest any improvement in detail? The first which occurs to us is to get rid of the pulp and of the pulp cavity. This is exactly what the dentist does when caries has eaten into the heart of a tooth and set up intolerable pain. Why has this operation not been forestalled by Nature? I have before me now the jaws of men who lived in Babylonia some 6000 years ago. The crowns of the teeth are almost worn away from use, and yet the pulp cavities are not exposed; as erosion wore the crowns down, the odontoblasts of the pulp laid down secondary dentine until the cavities became obliterated. Why do these dentine builders need the pressures and strains of use to set them to work? Why are the teeth furnished with pulp? The answer is that a tooth is a living thing; every element of it needs nourishment—even the enamel prisms. The pulp is Nature's means of keeping the tooth flooded with the elements needed for the sustenance of life. If the cavity of a tooth is filled then all the nourishment which can sustain a tooth has to reach it through the periodontal membrane. A stopped tooth is not a dead tooth, but it is one which is imperfectly nourished, unfit for hard wear, and liable to atrophy and to infection. For the full health of a tooth, a pulp cavity is a necessity. Odontoblasts are sensitive to wear and react by the formation of sound secondary dentine. But Nature

has not discovered a method of making them react to the insidious invasion of caries. If Nature is put to it, I dare say she may discover a method of arresting invasion of caries by the formation of secondary dentine. Meantime it has to be admitted that she has not made this discovery, and that with the death or destruction of its pulp a tooth loses its full condition of health.

The Nerves of a Tooth.

Why should teeth be so richly supplied with nerves? We know the curse these nerves bring to us when teeth become diseased, but where is the blessing which should accrue to us from this rich nerve-supply in health? It does not seem to me that we give a satisfactory reason for the presence of such nerves by saying that they are protective—that a sensitive pulp prevents us from neglecting or from abusing our teeth. Sir James Mackenzie holds that pain, when it occurs as the result of disease, is usually a manifestation of a disordered reflex. What reflexes could be centred in or round a tooth? One can conceive, although there is no evidence on the point, that end-organs or receptors of reflexes which regulate the muscles of mastication may be situated in the periodontal membrane, but one does not expect such receptors to occur in the pulp cavity. Yet they may, for when we bite or chew hard or tough substances there must be a certain degree of deformation of the tooth and of the pulp cavity, and such deformation may be registered by nerve terminals in the pulp. An experience with which we are all familiar throws some light on this point. A tooth may pass into a condition where the application of heat or of cold will elicit a severe toothache. When heat or cold is applied to a tooth there must be an expansion or contraction of its body, extremely slight in degree, yet sufficient to render its pulp cavity just too large or just too small for its contents. One would suppose that to adjust the size of the pulp to its cavity there must be a local vaso-motor reflex which accommodates the pulp to the size of its cavity. When a tooth becomes diseased this reflex is lost or disordered, and hence the application of heat or of cold causes stretching or compression of the pulp and thus elicits pain. Even if we succeed in explaining how pain is elicited in toothache, we are still far from giving a satisfactory answer to the question, Why is pain elicited? All we can say at present is that if a tooth is to be healthy and durable it must have a pulp, and if it is furnished with a pulp, then it must be provided with nerves and the price of nerves is a liability to pain. If we accept Nature's dentition, we must be prepared to purchase its overwhelming benefits at the risk of suffering.

NECESSITY OF STUDYING NATURE'S METHODS.

In our search for an ideal tooth for modern man we cannot conceive anything so good as Nature's best. We cannot suggest any improvement in her designs, materials, or manner of production. Why, then, should she serve modern civilised man so indifferently while the wild apes of the jungle enjoy her superior workmanship? The apes' teeth, so long as their natural lives are led, are almost proof against caries and against pyorrhœa; not absolutely but nearly. It is only when the crowns are worn down and the formation of secondary dentine is inadequate that they become liable to gumboil and root abscess. Yet apes never brush their teeth; their children attend no dental clinic. Whereas we poor human beings, take what pains we may, find ourselves the subjects of the grossest forms of dental disorders. Is it that Nature is really scamping her work so far as the teeth of city-living man is concerned, or is it that city-living man in his ignorance is not supplying Nature with the materials—or materials in the proper ratio and condition—out of which she has been accustomed to fashion teeth? Discoveries which have been made by Dr. and Mrs. Mellanby seem to show this is the case. We are supplying the clay and withholding the straw which she needs for the fashioning of her dental edifices. Our bad teeth are not due to Nature's bungling, but to our ignorance of her ways. If we are to have sound teeth we have to study Nature's methods with infinite patience, and humour her by supplying the materials and conditions under which she can do her best work. Even human workmen demand such terms.

It is often said that degeneration has overtaken our teeth because we do not use them as early man did. It is most probable that use and wear harden the texture of a tooth, for teeth are living things, and all living things react to use. Use may be a condition of preservation of the fully erupted tooth, but I do not think that lack of use through countless generations has caused the reduction in the size and number of teeth in modern man. Since her very earliest endeavours to fashion mammalian teeth Nature has brought them into use after their chewing crowns were fully formed: if there was inheritance of the effects of use, crowns should be formed with their tips worn off. The units of a dentition are assembled, just as are the units of a motor-car—all fully finished and ready to fit into place before they are ever put in movement. Tooth after tooth erupts to find perfectly fitting opponents ready to come into contact with them. We do not know the machinery which Nature uses to coördinate the parts of her dental mills, but it is certainly not the mechanical one of usage.

AN OBSCURE MECHANISM.

There is some mechanism at work in the human body which tends to weaken the jaws and teeth as it strengthens the powers of the brain. The exact nature of this mechanism remains obscure. One could conceive a developmental correlationship between brain and teeth—one which exercised a restraining influence on teeth as it favoured an increase of brain. One, however, is tempted to suppose that the reduction of the teeth has not been brought about in this way, but by the increased powers of the brain altering the conditions under which the development and growth of man's body takes place. The discovery of fire and of cooking must have wrought a revolution in the conditions of human life—and subjected the teeth and the whole alimentary tract of evolving man to a new set of conditions, demanding fresh adaptations. We do not know at what period of man's evolution the discovery of fire was made. In Rhodesian man, one of the most primitive and simian of human types yet discovered, massive robust-looking teeth are ravaged by caries and dental abscess. His remains lay in the utmost recess of a great cave which was chokeful of animal bones—apparently the residue of human feasts. It does not seem too much to suppose if we are to account for the condition of the teeth of Rhodesian man, that he was suffering, just as we are, from the early experience of new conditions. Had he learned the secrets of fire and been seduced into the use of cooked food? Perhaps, like us, he blamed Nature for his misfortunes.

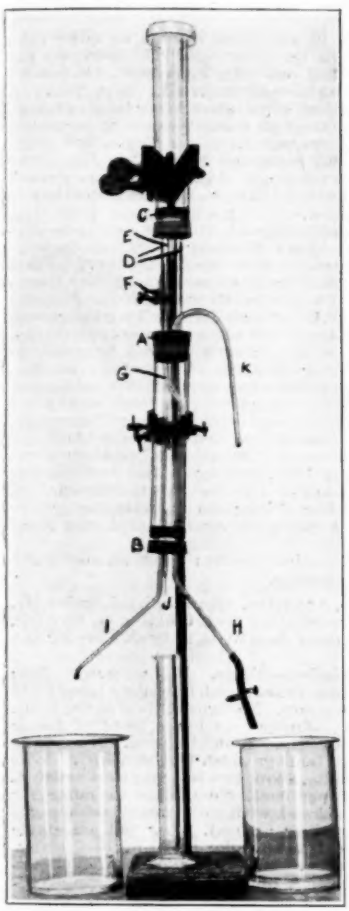
CONCLUSION.

Thus our search for an ideal dentition leads us to the conclusion that the best conceivable, the best obtainable, is that which Nature has to offer every one of us. Only we must realise that she lays down conditions, conditions which have to be discovered as well as accepted and observed. We have to abandon our present mood—the Metchnikoffian mood—in which we lay down conditions which we expect Nature to observe. We expect her to keep up the standard of her dental workmanship when we swamp our own bodies, as well as the developing tissues of the fœtus, and infant, with substances she finds difficult to handle and utilise. We demand that she will adjust at once her adaptational machinery to our new modes of living and blame her when she fails to respond. It is all so childish and so unreasonable! All she asks of us is that we shall understand the method of her workmanship and the materials which she requires in the fashioning of teeth. And if we patiently apply ourselves to her behests I, for one, believe she will give us the dentition we deserve.

AN APPARATUS FOR USE IN THE SIGMA REACTION.

BY JOSEPH W. BIGGER, M.D.DUB., F.R.C.P.IREL.,
PROFESSOR OF BACTERIOLOGY, UNIVERSITY OF DUBLIN.

IN diluting the antigen for use in the Sigma reaction it is necessary to allow saline to drop into the alcoholic solution at constant rate. In place of the floating syphon used by Dreyer and Ward, I have, for the past 18 months, used the following apparatus, and I believe that it is more satisfactory and less troublesome than the floating syphon. It consists of two cylinders (about 20 by 4·5 cm.), the lower of which is provided with two rubber bungs (A and B), the upper with one (C). Through holes in A and C pass two glass rods (D) which help to stabilise the apparatus. The upper surface of C is cut so that the fluid in the upper cylinder is able to drain out completely through the short glass tube E. This is connected by a rubber tube F, on which is a screw clip, with the tube G. This passes through A and reaches almost to the bottom of the lower cylinder. The surface of the bung is cut in the same way as C to drain the cylinder through the glass tube H, which ends in a rubber tube with a spring clip. Through B also passes the tube I, the height of which in the cylinder can be varied. J is the terminal portion of a dropping pipette. The curved tube K admits air into the lower cylinder but excludes dust.



The upper cylinder is filled with saline, which flows through E, F, and G, and rises in the lower cylinder. When it reaches the level of the top of the tube I, it flows through this and escapes. The clip on F is adjusted until the saline which is dropping from J also drops slowly from the end of I. So long as the upper cylinder contains saline, the head of fluid acting on J will remain constant. Using a graduated cylinder and a stop-watch, the rate of dropping from J is adjusted by pushing the tube I further through B, or by withdrawing it until exactly 34·0 c.cm. of saline drops from J in 4 min. 30 sec. Once adjusted the apparatus works accurately when required without further alterations of I. When the antigen is made, the upper cylinder is emptied by opening the clip on F, and the lower by releasing the clip on H. It is allowed to drain for a few minutes. The entry of dust, when the apparatus is not in use, is prevented by an inverted Petri dish which covers the opening of the upper cylinder. When again required, the whole is rinsed through with sterile saline a couple of times, and is then ready for use.

ON INFLUENZAL ARTHRITIS.

WITH NOTES OF THREE CASES OF INFECTION OF THE KNEE-JOINT IN CHILDREN.

BY DAVID NABARRO, M.D., F.R.C.P. LOND.,
DIRECTOR OF THE PATHOLOGICAL DEPARTMENT AND BACTERIOLOGIST, HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET;

AND

J. F. H. STALLMAN, M.B., B.S. LOND., F.R.C.S. ENG.,
CLINICAL ASSISTANT, LATE SURGICAL REGISTRAR, AT THE ABOVE HOSPITAL; SURGICAL REGISTRAR, LONDON TEMPERANCE HOSPITAL.

JOINT infections complicating or following influenza are one of the rarer surgical complications of this disease, since after an extensive search through a very large literature we have discovered only three recorded cases in which the influenza bacillus was actually obtained in pure culture from the joints.

Slawyk [1] (1899) recorded a case in a baby with an abscess on the dorsum of the right hand and an arthritis of the left ankle-joint. This case terminated fatally with meningitis. The organism was obtained in pure culture from the pus and cerebro-spinal fluid.

The second case was recorded by Dudgeon and Adams [2] (1907) in a baby with suppurative arthritis of the left elbow- and right hip-joints, causing gross disorganisation and necrosis. This case ended fatally with meningitis, the organism being obtained in pure culture from the cerebro-spinal fluid and the affected joints.

Henry [3] in 1912 recorded a series of nine cases of "meningitis due to hæmophilic organisms—so-called influenzal meningitis?" In one of these cases, a child of 16 months, the knees and ankles were swollen, but on the following day, when the child was admitted to hospital with obvious meningitis, the joint swellings had disappeared. Death occurred within a week, and post mortem an influenza-like bacillus was obtained from the brain, spinal cord, heart blood, liver, kidney, and lungs. Two guinea-pigs were inoculated with 18-hour-old cultures of the organism; the one inoculated subcutaneously was unaffected, the other, inoculated intraperitoneally, died in 24 hours, and the organism was recovered from the peritoneum and heart blood. There are two further points of bacteriological interest in this case: (1) The fluid obtained by lumbar puncture during life is said to have shown badly-staining intracellular diplococci, which were regarded as meningococci; and (2) cultures on blood-agar showed well-marked filament formation after 18 hours' incubation, and after 24 and 30 hours tangled masses of filaments. Maitland and Cameron [4] (1921) refer to a case in which the *Bacillus influenzæ* had been isolated from the blood and infected knee of a child by Dr. Erb, of the Hospital for Sick Children, Toronto. No clinical details are given.

Other cases have been described as complications or following influenza, but they lack conclusive bacteriological support. The general opinion seems to be that the joint infections are usually non-purulent.

Schmieden [5] (1919) says that frequently there are only passing effusions which continue for a few weeks and are then spontaneously absorbed. In other cases some callous thickening and contractures may result. He compares them to mild forms of gonorrhœal arthritis, and Prader [6] (1920) described four cases of acute synovitis with rarefying osteitis having the type of gonorrhœal arthritis.

In contrast to the non-purulent cases, several cases of suppurative arthritis have been described, some ending in gross disorganisation of the joint or joints involved, with necrosis of their bony parts, some even terminating in death. Some of these have been streptococcal infections.

Prader describes five such cases of suppurative arthritis, two of the knee-joint, one ending fatally in spite of amputation, and three of the hip-joint, needing resections of the head of the femur, two ending fatally. He also described

three cases of sero-purulent exudation into the knee-joint, resolving on aspiration, one with slight subluxation, but streptococci and diplococci were found. Roello [7] (1921) recorded two cases of suppurative arthritis in children, 13 months and 3 years old respectively. In one case of the right shoulder-joint, Gram-negative diplococci were found; from the other, of the left elbow- and right hip-joints, a diplo-streptococcus was isolated. Complete recovery took place in the former, in the latter 2 cm. shortening of the leg remained. Khàrina-Mannucci [8] (1919) reports a case of suppurative arthritis of the right shoulder-joint in a baby of 10 months, recovering from influenza with respiratory complications. A short bacillus resembling *B. pyocyaneus* was grown. Complete resolution occurred with an autogenous vaccine, without recourse to operation.

Since during an influenza epidemic almost any unexplained febrile attack is very often diagnosed as influenza, it is conceivable that some of such cases are caused by absorption of toxins from some unrecognised source of infection, possibly the teeth, and, giving rise to symptoms clinically resembling influenza, be diagnosed as such; a secondary lesion complicating or following would be thus termed "influenzal." It seems scarcely scientific or justifiable to ascribe lesions to influenza unless the specific organism be obtained from the pus or be found in the primary illness.

Clinical Records.

In all three of the cases recorded in this paper the infection was of the knee-joint, and it is remarkable that two of them were admitted on the same day. A Gram-negative bacillus resembling *B. influenzæ* was obtained in pure culture from all of them, and in the third case it was also isolated from the cerebro-spinal fluid.

Onset.—In only one case (Case 3) was the joint infection preceded by an illness which might have been influenza; in this case there was a cold a week before which developed into pneumonia. The other two developed as an ordinary acute synovitis of the knee-joint with sudden onset of pain in the joint, general ill-health, and feverishness.

Type of Infection.—On admission they presented the appearance of an acute synovitis, raised temperature, and a distended and acutely tender joint. On exploratory puncture thick creamy pus was obtained in Cases 1 and 3, and thin pus with a faint greenish tint in Case 2. It may be noted that the exudate into the meninges of Case 3 found post mortem was of a pale green colour. On opening the joints a suppurative synovitis was found without any erosion of cartilage or other joint structure. In Case 1 on admission there were no bony changes, but subsequently an osteitis developed on the outer side of the lower third of the femur, and a later skiagram showed this in process of healing. A skiagram of Case 2 showed a doubtful area of rarefaction on the inner side of the femoral diaphysis. Case 3 showed no bony changes.

Treatment.—Three methods of treatment were carried out. Case 1 was treated by the Carrel-Dakin method of irrigation. Case 2 was opened and the joint washed out for 10 minutes with 2 per cent. chloramine in saline and then closed. Case 3 was at first treated by repeated aspirations, but no benefit arising, the joint was opened and drained. All three methods of treatment were successful; Case 3 developed cerebro-spinal meningitis from which she died, but as far as the joint was concerned, the treatment was successful. Case 2 had a smoother convalescence than Case 1, which may be correlated with the observed difference in pathogenicity of the organisms recorded below. The treatment of election would seem to be aspiration or opening the joint, washing it out and closing it. If the temperature continues high and the general condition does not improve, and if the local signs do not subside and bacteria are still found in the joint exudate, then opening and drainage would be indicated, but this as a primary operation does not appear to be the method of choice.

Results.—Complete resolution of the joints occurred in the first two cases, and the post-mortem on Case 3 showed that, as far as the joint was concerned, this was progressing towards complete resolution.

CASE 1.—Joan C., 1 year, 11 months, was admitted under Mr. H. A. T. Fairbank to the Hospital for Sick Children, Great Ormond-street, on May 4th, 1923.

History.—Commenced five days ago with pain in the right knee. Very restless with pain throughout the night, and very feverish. Joint very tender. No vomiting, bowels constipated. There was no history of any injury to the knee.

Past History.—Child much under weight. Breast-fed until 11 months old.

Condition on Admission.—Temp. 102°; pulse 160; respirations 32. Right knee-joint distended, hot, and tender. No movements allowed. A skiagram showed no bony changes.

Operation (May 4th, 1923).—Joint opened on outer side, counter incision made on the inner side. Thick creamy pus evacuated. Joint washed out with 2 per cent. chloramine in saline and Carrel-Dakin tubes inserted. May 24th: A skiagram showed osteitis on outer side of lower third of femur. 27th: Wounds healed except for a small sinus. Sinus probed and pus and blood-clot evacuated. 29th: Temp. 100°–102°. Wound probed and foul blood-clot removed. June 5th: Temp. normal, sutures removed. 14th: Skiagram showed area of rarefaction on outer and anterior aspect lower third of femur. Periosteum raised. Cortex a little more dense than at last examination, indicating a healing process; considerable swelling in joint. 18th: Discharged, wounds healed.

Pathological Investigation.—Pus greenish-yellow. Films stained by Gram's method showed numerous minute Gram-negative bacilli. No tubercle bacilli were found. Cultures on blood-agar and on T.B.E.* agar furnished a good growth of minute colonies, almost invisible to the naked eye, in 24 hours. Films of this growth showed pure Gram-negative bacilli morphologically like the Pfeiffer's bacillus. The whole of a 24-hour culture was emulsified in saline and injected intraperitoneally into a guinea-pig, which succumbed in 18 hours. The organism was recovered in cultures from the peritoneal exudate, the spleen, and the heart blood. A second specimen of pus from a "hæmatoma" or abscess was examined on May 27th, 1923, and again this bacillus was found to be present. A similar very fine growth was obtained on T.B.E. agar, which showed long and short Gram-negative bacilli and filaments. A culture on agar smeared with blood remained sterile.

Jan. 17th, 1924: The mother reports: "Perfect movement in the leg, no pain or swelling."

CASE 2.—Charles M., 8 months, was admitted under Mr. G. E. Waugh to the Hospital for Sick Children on May 4th, 1923, with a history of three days irritability and crying and left knee drawn up.

Condition on Admission.—Temp. 101°; pulse 160; respirations 38. Left knee flexed, tender swelling lower third left femur, pitting on pressure. No signs of fluid in the joint.

Operation (May 4th).—Outer side lower third of femur explored, bone found healthy. Wound closed. Knee-joint aspirated, thin pus with faint greenish tint removed. Joint opened outer side of patella, about two ounces pus evacuated. Joint irrigated with 2 per cent. chloramine in saline for ten minutes. Wounds closed with interrupted salmon-gut sutures, dry sterile dressing applied. Leg put on single Thomas splint with extra knee-flexing iron, and slung. May 11th: Temp. normal. 25th: A skiagram showed a doubtful area of rarefaction inner side femoral diaphysis. 29th: Wounds healed. June 18th: Discharged, wounds soundly healed. Limb straight, but flexion restricted to 20°.

Pathological Investigation.—The pus was similar in appearance to that in the first case and contained many minute Gram-negative bacilli. Cultures on agar, blood serum, and on T.B.E. agar remained sterile, but a profuse growth of minute dewdrop-like colonies occurred on agar smeared with blood. Morphologically the bacilli resembled the influenza bacillus. A 24-hour old culture was injected into a guinea-pig, as in the first case, but the animal remained alive and well.

Jan. 18th, 1924: The mother writes: "He has full movement of the knee, and is running about the floor quite well."

CASE 3.—Ruth W., 1 year, was admitted under Mr. T. Twistington Higgins on Nov. 8th, 1923.

History.—Seen a week previously, and had a cold which developed into pneumonia five days ago, since has been very ill. Yesterday painful swelling of right knee noticed, pain on touching and on movement. More swollen and shiny to-day. No vomiting, bowels opened.

Condition on Admission.—Temp. 103°; pulse 168; respirations 40. Child very ill. Consolidation upper half of right lung. Uniform swelling of right knee-joint, no fluctuation detected. Nov. 8th.: Aspiration of knee-joint. Small quantity of gelatinous fluid withdrawn. 16th: Chest clear. Temp. still raised. Joint distended chiefly in suprapatellar pouch. Aspiration: 3 c.cm. thick pus obtained from the suprapatellar pouch. 17th: Temp. 101°; pulse 140; respirations 36.

* Tryptamine-blood-extract agar (Cole and Onslow's medium).

Operation.—Joint opened outer side of patella. Thick pus obtained, localised to suprapatellar pouch. Joint drained. An autogenous vaccine was prepared and a dose of 10 millions given on Nov. 23rd.

Nov. 30th: Wound healed, but continuing swinging temperature. Signs of meningitis developing. Further doses of the vaccine were given on Dec. 1st and 6th, but the meningitis was then fully established and death took place on Dec. 9th.

Post-mortem Examination.—Right knee-joint: Operation wounds healed; signs of previous inflammation in suprapatellar synovial pouch. Brain and cord: Cerebro-spinal meningitis. Ventricles distended and full of a mixed watery and creamy exudate. Gram-negative bacilli were present in the pus and grew in cultures.

Pathological Investigations.—The gelatinous fluid drawn from the knee on Nov. 8th contained a few mononuclear cells. A culture in broth remained sterile after four days' incubation. 16th: The pus aspirated contained many minute Gram-negative bacilli, some of them intracellular. No tubercle bacilli found. Cultures on agar remained sterile. 17th: Many Gram-negative bacilli present in the pus and clot, also some larger forms. Cultures made on blood agar and chocolate agar; on blood agar there was a profuse growth in 24 hours of minute colonies, practically invisible to the naked eye. Films showed long and short forms of a Gram-negative bacillus, morphologically like the Pfeiffer's bacillus. The chocolate agar was sterile after 24 hours, but after 48 hours a growth similar to that on the blood agar was present. Some of the pus was injected intraperitoneally into a guinea-pig, but the animal showed no lesions after one month. The cerebro-spinal fluid was examined on several occasions. It had the usual characters of the fluid from a case of so-called influenzal meningitis. The sediment showed many cells—practically all polymorphs—and Gram-negative bacilli (resembling Pfeiffer's bacillus), some of them intracellular. Morphologically long and short Gram-negative bacilli were present. A little of the purulent sediment from the cerebro-spinal fluid (Nov. 30th) was injected intraperitoneally into a guinea-pig. The animal was ill the next day and found dead on the following day. Post mortem there were signs of peritonitis, but the organism was not recovered from the exudate.

We are indebted to Mr. Waugh, Mr. Fairbank, and Mr. Higgins for their kind permission to publish these cases.

Comments (J. F. H. S.)—1. Without bacteriological proof the relation of joint lesions with influenza is unsatisfactory.

2. The joint lesions are usually monarticular but may be multiple, and may occur weeks or months after the primary illness.

3. The general opinion seems to be that the majority of joint infections complicating or following influenza are of a benign nature, ending in complete resolution in most cases, a little thickening, and slight deformity remaining in a few. Severe suppurative arthritis may occur in a minority of cases, and some of these may prove fatal.

4. The best form of treatment is that based on conservative lines in the simpler forms—viz., fixation in a suitable splint (such as a modified Thomas splint) and slinging. Consideration must be given to movements and subsequent function as soon as the acute stage has subsided. Aspiration of the joint, repeated if necessary, is better than open drainage, which should only be carried out when the clinical signs and bacteriological indications show that aspiration is not proving successful. Opening the joint, irrigation, and primary suture may be carried out in place of aspiration with equally beneficial results. Severe suppurative arthritis must, of course, be treated on the usual lines as when occurring in other circumstances.

5. The prognosis in the simpler forms is good both as to life, &c., and as regards the function of the joints involved.

Comments (D. N.).—These three cases are of considerable interest on account of their rarity. As regards prognosis, two of our three cases recovered, while the third died of meningitis, the involved joint, however, being apparently well on the road to recovery. Two of the three previously reported cases (Slawyk, and Dudgeon and Adams) succumbed to meningitis and general infection with the *B. influenzæ*. In one case the affected joints, post mortem, showed definite inflammation of the synovial membrane with the presence of turbid fluid in the joint; whereas in the other case the affected joints were disorganised and the bones necrosed.

Ætiology of Influenzal Meningitis and Arthritis.

As regards the ætiology of these cases of so-called influenzal meningitis and arthritis, there is still considerable difference of opinion as to the identity of the isolated bacillus with Pfeiffer's bacillus. Pfeiffer[9] (1893) originally described the influenza bacillus as being found only in the nasal passages, and regarded the post-influenzal nervous symptoms as being toxic in origin. He could not demonstrate the organism in the blood. Since then, however, several observers have demonstrated the bacillus in the blood and in the exudate and pus of "influenzal" cerebro-spinal meningitis. Morphologically these bacilli resemble the original Pfeiffer bacillus, but in artificial cultures the former tend to produce more filamentous forms than the latter. On animal inoculation, too, some differences have been recorded. Whereas the Pfeiffer bacillus is not very pathogenic for animals, and when injected in massive doses may kill by toxæmia and not by septicæmia, the organisms isolated from so-called "influenzal" meningitis cases have often been found pathogenic for animals. These observations have induced some investigators (Cohen[10] (1909), Henry [3]) to regard the organism of meningitis as being different from Pfeiffer's bacillus, which, however, it resembles closely in morphology and staining reactions. The case reported by Slawyk does not bear out this view. He states that the influenza bacillus grown from the cerebro-spinal fluid showed longish filaments in culture and that Pfeiffer himself identified the cultures as *B. influenzæ*, nevertheless 0·5 c.cm. of cerebro-spinal fluid killed a guinea-pig in half an hour after intravenous injection, and a two-day-old broth culture killed a guinea-pig in three days. After the diagnosis was made the *B. influenzæ* was found in all parts of the body, including the blood.

The work of recent observers (Blake and Cecil,[11] Parker,[12] Huntoon and Hannum,[13] McIntosh [14]) has shown that whereas cultures from solid media, even in massive doses, may be non-pathogenic, liquid cultures are often markedly pathogenic for rabbits, mice, guinea-pigs, and monkeys, and that even the filtrates of such cultures may be highly toxic. With this toxin, too, an antitoxic and agglutinating serum may be prepared from rabbits. Cohen has attempted to differentiate the meningitis strains from the true influenzal strains of the bacillus by agglutination and protection experiments. Other observers, however (Maitland and Cameron [4] (1921), Bell [15] (1920), Valentine and Cooper [16] (1919), Povitzky and Denny [17] (1921), Coca and Kelly [18] (1921), Yabe [19] (1921)), have been unable to group strains of *B. influenzæ* either morphologically or serologically—the morphological variations are very marked and do not appear to correspond to variations in agglutination, and serologically most strains appear to be distinct when tested by agglutination and absorption methods.

From the evidence available it would appear justifiable to conclude that the strains of *B. influenzæ* which have been isolated from the lesions in influenza (pneumonia, bronchitis, rhinitis) and its complications, meningitis, arthritis, &c., and from healthy carriers, all form one group of organisms which may show marked differences in morphology, in their pathogenicity for animals, and in their agglutination and absorption reactions.

References.

1. Slawyk: Ein Fall von Allgemeininfection mit Influenzabacillen, Zeitsch. für Hyg. und Infectionskrankheiten, 1889, xxxii., 443.
2. Dudgeon, L. S., and Adams, J. E.: A Case of Pyæmia Due to the Influenza Bacillus, with Multiple Arthritis and Meningitis, THE LANCET, 1907, ii., 684.
3. Henry, Herbert: On Meningitis Due to Hæmophilic Organisms—So-called Influenzal Meningitis, Jour. Path. and Bact., October, 1912, xvii., 174.
4. Maitland, H. B., and Cameron, G. C.: A Study of Hæmoglobinophilic Bacteria by Agglutination and Agglutinin Absorption, Brit. Jour. Exp. Path., 1921, ii., 283.

(*Continued at foot of next page.*)

REPORT ON TWO CASES OF DIRECT INJECTION INTO THE HEART FOR ARREST OF HEART BEAT DURING ANÆSTHESIA.[1]

BY W. B. HOWELL, M.D. MCGILL,
CHIEF ANÆSTHETIST, ROYAL VICTORIA HOSPITAL, LECTURER ON ANÆSTHETICS, MCGILL UNIVERSITY, MONTREAL.

FIFTY years ago, Schiff, a German physiologist, found that the heart could sometimes be started again after it had stopped beating; other physiologists confirmed his observations. It was, however, some years before surgeons applied Schiff's method to human beings and were able to recall to life some of their patients, apparently dead on the operating table. Of recent years massage of the heart has been displaced by direct injection. The following are two cases in which the heart stopped beating but was set going again by means of the direct injection of adrenalin.

CASE 1.—The patient was a man, aged 30, who had had pulmonary and intestinal tuberculosis for seven months. During this time his weight had sunk from 168 to 102 lb. At the time of operation there were signs of active disease in both lungs, but especially in the left, where there was believed to be a cavity.

On Jan. 27th, 1924, he was given nitrous oxide and oxygen with McKesson's apparatus. The administration was begun at 10.20 A.M. Dr. Archibald, assisted by Dr. Scrimger, opened the abdomen, and proceeded with a short-circuiting operation. The anæsthetic was given for an hour and fifty minutes, during which time the breathing became shallow and stopped temporarily two or three times, the colour becoming rather dark. Each time the nitrous oxide was turned off and pure oxygen given under moderate pressure. On each occasion breathing was resumed spontaneously, the colour quickly becoming pink. At 11.30 the pulse dropped to 90, and was markedly irregular. Ten minutes later the irregularity had disappeared and the rate risen to 130. As the operation proceeded the patient's colour became somewhat paler. At 12.10 P.M., just after the completion of the bowel anastomosis, breathing stopped, the colour became very pale, and the pulse could no longer be felt. Pure oxygen was turned on and used to inflate the lungs rhythmically under moderate pressure. After a pause a deep spontaneous inspiration was taken, and after another considerable pause this was repeated. The oxygen was continued, and artificial respiration performed by rhythmical compression of the lower thorax. About three minutes after breathing had stopped Dr. Archibald introduced his hand into the abdominal cavity for the purpose of massaging the heart. It was then felt through the diaphragm as a flaccid bag, obviously paralysed in diastole. The ventricles were rhythmically compressed, the left hand exerting counter pressure outside the chest wall. Only the lower half or two-thirds of the ventricle could be grasped. After about two minutes' massage without response a syringe for direct injection was called for. By this time the appearance was that of death, the pupils being widely dilated. Probably another minute elapsed before the syringe was produced. Dr. Scrimger then injected 1 c.cm. of a 1 in 1000 solution of adrenalin in the region of the heart. As no response could be felt by the hand in contact with the heart it seemed doubtful to Dr. Archibald if the needle had been pushed into the heart muscle. Consequently another dose of ½ c.cm. of a 1 in 1000 solution was injected about a minute later, but without result. After another minute Dr. Scrimger inserted the needle again. This time Dr. Archibald felt that it had passed through the middle of the ventricles into the pericardium beyond. The needle was then partly withdrawn and 7 minims of pure adrenalin solution injected into the heart. After about ten seconds pulsation was felt, at first weak but rapidly growing stronger, until within a minute the ventricle was beating with considerable force, and becoming steadily more rapid. The whole time during which the heart had been stopped must have been nine or ten minutes. The rate was now between 80 and 90 and the contractions very strong. The pulse could be felt in the wrist and temporal arteries, and the colour had returned to the face and lips. Artificial respiration was continued for several minutes before the patient took a spontaneous breath. The breathing was at first shallow, with considerable intervals, but soon became regular and deep. The lungs were now found to be full of coarse râles, and the breathing sounded, to the bystanders, as if there were a good deal of fluid being churned up in the larger air-passages. It was concluded that œdema of the lungs from the temporary stopping of the circulation had developed. Dr. Archibald percussed the chest, and noting the obliteration of the heart dullness suggested the presence of pneumothorax.

The patient was returned to his room. The head was kept low and the administration of oxygen continued. His systolic blood pressure was 120. He was quite unconscious and rather restless, showing a tendency to throw his arms about and move his head quickly from side to side.

Dr. Moffat now examined his chest and diagnosed pneumothorax. A needle was therefore introduced and the air slowly aspirated. This had to be repeated frequently as the air seemed to collect rapidly and cause respiratory difficulty. In spite of the use of oxygen and cardiac stimulants the patient died without regaining consciousness at 5.30, 5 hours and 20 minutes after his heart had first stopped beating. Permission was obtained to remove the lungs for examination. It was impossible to find the place where the air had gained access to the pleural cavity. It was probably at the apex where the surface of the lung was torn by the breaking down of adhesions during removal. There was no sign of injury to the lung by the needle used for the injection.

CASE 2.—This patient was a man aged 71, who had had his prostate removed by Dr. D. Mackenzie on Jan. 5th. He lost a good deal of blood at the operation, and his convalescence was slow and unsatisfactory. On Feb. 29th, during a cystoscopic examination, he was attacked by severe pain in the abdomen, accompanied by weakness and faintness. The pain continued, and the next morning he was feverish, and vomited. Enemas were ineffectual. The abdomen was distended and rigid. A diagnosis of peritonitis was made and he was taken to the operating room. His general condition was very grave. At 11.20 on March 1st he was given nitrous oxide and oxygen by means of a McKesson apparatus. The peritonitis was found to be due to a leak at the base of the bladder. The bladder was drained, and cæcostomy performed to relieve the distension of the bowels. At about 11.45 the patient's colour suddenly changed, he became very pale, and the pulse disappeared from the temporal artery and wrist. Breathing, after a very short interval, stopped too. The nitrous oxide was at once turned off and pure oxygen given with rhythmical pressure. At the same time artificial respiration by compression of the lower chest was commenced. The lips had become white and no heart's impulse could be felt. Some adrenalin solution (½ c.cm. of 1 in 1000) was therefore injected into the heart through the fifth intercostal space. The result was almost dramatic. The heart's impulse and the pulse at once returned, the colour improved, and within a short space of time spontaneous breathing began, at first at intervals of about 10 seconds, but soon becoming faster and regular. Probably the time during which the pulse disappeared was not more than two minutes. After breathing had become re-established the sounds were noticeably moist as if there were abundant froth in the air-passages. To check this secretion he was given atropine, gr. 1/150, hypodermically. On his return to his room his pulse showed signs of failing again, and he was given adrenalin (1 in 1000 solution) hypodermically with considerable

[1] Read at the Annual Meeting of the Canadian Society of Anæsthetists, Ottawa, June 17th–20th, 1924.

(*Continued from preceding page.*)

5. Schmieden: Die chirurgischen Komplikationen der Grippe, München. Med. Wchnschr., 1919, lxvi., 1.
6. Prader, J.: Chirurgische Grippe-erkrankungen und krytogene Pyämie in der Grippezeit, Wien. Med. Wchnschr., 1920, lxx., 233–238.
7. Roello, G.: Complicazioni Articolari dell' Influenza nell' Infanzia, Riforma Medica, 1921, xxxvii., 654–655.
8. Kharina-Mannucci, R.: Un Case di Poliartrite Purulenta Post-Variolosa ed Uno di Monartrite Purulenta Post-Influenza Guarite Mediante la Vaccinazione, Pediatria, Napoli, 1919, xxvii., 655–660.
9. Pfeiffer, R.: Zeitschr. für Hyg. und Inf.-krankh., 1893, xiii., 357.
10. Cohen: Ann. de l'Inst. Pasteur, 1909, xxiii., 273; and Centr. f. Bakter., 1910, Orig., lvi., 464.
11. Blake, F. G., and Cecil, L. C.: Jour. Amer. Med. Assoc., 1920, lxxiv., 120.
12. Parker, J. T.: Jour. Immunol., 1919, iv., 331; Jour. Amer. Med. Assoc., 1919, lxxii., 476.
13. Huntoon, F. M., and Hannum, S.: Ibid., iv., 167.
14. McIntosh, J., and Fildes, P.: British Jour. Exp. Path., 1920, i., 119 and 159.
15. Bell, H.: Jour. Inf. Dis., 1920, xxvii., 464.
16. Valentine, E., and Cooper, J. M.: Jour. Immunol., 1919, iv., 359.
17. Povitzky, O. R., and Denny, H. T.: Ibid., 1921, vi., 65.
18. Coca, A. F., and Kelly, M. F.: Ibid., 1921, vi., 87.
19. Yabe, S.: British Jour. Exp. Path., 1921, ii., 197.

benefit. He did not regain consciousness until 6 o'clock in the evening. Afterwards his convalescence was slow but continuous.

Commentary.

In this, unlike the first case, the heart was not felt through the diaphragm, but the reasons for believing it had stopped were equally strong. There was the cessation of pulse, apex beat, and respiration, the appearance of the patient's face, the fact that when the needle was pushed into the heart no movement was felt, the prompt appearance of œdema of the lung when the heart recovered, and the protracted interval before the return of consciousness. In such emergencies it is very difficult to estimate time exactly, but the duration of the intervals between the various events was noted immediately—in consultation with Drs. Archibald and Scrimger in the first case, and with Dr. Scrimger in the second.

One of the most noticeable features in such cases is the length of time the nervous system takes to recover as compared with the heart. There is always a long period of unconsciousness afterwards. This is well shown in a case reported by W. M. Mollison.[2]

A boy of 6 was given a mixture of chloroform and ether for the operation of removing tonsils and adenoids. Just as it had been completed pulse and respiration stopped. By means of direct injection of pituitrin into the heart and massage through an opening in the abdominal wall, the heart was started again after 13 minutes. The patient was unconscious for seven days. For ten days he had choreic movements and symptoms of brain irritation. He eventually recovered.

Another interesting feature is the prompt appearance of œdema of the lung, apparently due to the arrest of circulation. In looking over the records of such cases in the literature of the last few years one finds the condition of the lung mentioned very rarely. Prus noticed it in his experiments on dogs, two out of 12 dying from this cause during the first hour after revival.

The chief lesson to be learned is the necessity for immediate injection of adrenalin into the heart. When breathing stops during anæsthesia the first thing is to ascertain the condition of the heart, for no amount of artificial respiration will oxygenate blood which is not circulating. Time spent in giving hypodermic injections, hot applications, &c., is merely compromising the chances of recovery. The actual injection is apparently harmless. Many post-mortems have been done on patients in whom cardiac injections have been given, but in none has damage to the heart been recorded, whereas damage to the heart muscle which was inconsistent with life has been revealed at post-mortems after cardiac massage. The needle should be inserted into the fourth intercostal space at the upper edge of the fifth rib, close to the sternal border, or else one finger's breadth inside the left border of relative heart dullness. By the first route, the right, and by the second, the left ventricle is reached. By either the internal mammary artery is avoided. The needle is known to be in one of the cavities of the heart by the escape of blood when the stylet is withdrawn. If the heart is much distended with blood it may be of advantage to let some escape. It would seem most rational to make the injection into the heart muscle itself. One French writer advises injection into the cavity of the heart, believing that absorption through the lymphatics of the endocardium can take place in time.[3] The injection can be conveniently made by means of a spinal puncture needle. Other substances than adrenalin have been used, but none have proved so satisfactory. The best method of artificial respiration is by means of the intra-tracheal insufflation of air. Sylvester's method has the drawback of hampering the heart by means of pressure on the lower thorax.

My thanks are due to Dr. Archibald and to Dr. Scrimger for permission to report these cases and for the help they gave me in recollecting the course of events.

[1] British Journal of Children's Diseases, January, 1917.
[2] D. Petit-Dutaillis, Journal de Chirurgie, Juil.–Décembre, 1923, p. 519.

INFECTIVE ENDOCARDITIS IN CONGENITAL HEART DISEASE

INVOLVING THE PULMONARY ARTERY.

BY H. E. A. BOLDERO, B.M.OXF., M.R.C.P. LOND.,
PHYSICIAN TO THE EVELINA HOSPITAL; MEDICAL REGISTRAR, MIDDLESEX HOSPITAL;

AND

D. E. BEDFORD, M.B., B.S. LOND.,
MEDICAL REGISTRAR, MIDDLESEX HOSPITAL.

THE occurrence of infective endocarditis in congenitally malformed hearts, although emphasised in text-books of medicine, is nevertheless infrequently met with in hospital practice. The association is interesting, first because it is rare, and second because it throws light on the origin of infective endocarditis in general.

The recent investigations of Lewis and Grant[1] have demonstrated the importance of congenital defects of the aortic valves in the causation of subacute bacterial endocarditis; and we propose here to consider the relationship of the more common congenital malformations to infective endocarditis involving the pulmonary artery. Endocarditis, simple or vegetative, is less common at the pulmonary valves than in any other situation, pulmonary incompetence being the rarest valvular lesion. Statistics based on post-mortem findings published by Osler (209 cases),[2] Horder (118),[3] Washbourn (100),[4] Cowan and Ritchie (70),[5] Glynn (47),[6] Abrahams (39),[7] Libman (19),[8] comprising 602 cases of infective endocarditis, show involvement of the pulmonary valves in 30 cases only, an incidence of 5 per cent. From an analysis of 198 consecutive cases of infective endocarditis from the post-mortem records of the Middlesex Hospital, we found the pulmonary valves affected in nine instances, or 4·5 per cent. Three of the nine cases had congenitally deformed hearts.

Apart from congenital malformations, the pulmonary valves are most frequently affected in gonococcal endocarditis, and in puerperal and traumatic septicæmias. Rheumatic endocarditis of the pulmonary valves is almost unknown, and therefore one is able to consider the development of the infective process in this situation, as it were, in virgin soil.

With regard to the relative frequency of the various malformations associated with pulmonary infective endocarditis, Newton Pitt[9] found among 21 collected cases: (1) patency of the ductus arteriosus in three cases; (2) defects of the interventricular septum in ten cases; and (3) pulmonary stenosis in eight cases. We have found descriptions of 36 cases in the literature; patent ductus arteriosus was present in 13 cases, patent interventricular septum in 12, pulmonary stenosis in 7, patent auricular septum in 6, defects of the pulmonary valves in 2, and stenosis of the conus arteriosus in 2.

1. *Patent Ductus Arteriosus.*

According to Libman this is the most important defect connected with infective endocarditis. The following interesting case has recently occurred which was under our observation for over two years, and in which an autopsy was performed.

A male of 29 years was admitted to the Middlesex Hospital under the care of Dr. C. E. Lakin in June, 1921, complaining of pain in the legs and of feeling unwell. According to his mother he had had "rheumatism in childhood," and diphtheria at 7 years of age. He had always been delicate and "suffered with his heart," and had never been able to do ordinary work. He was of average physical development, but mentally backward. There was no cyanosis and no clubbing of the fingers or toes, but the complexion was highly coloured. Physical examination revealed a greatly enlarged heart with some bulging of the præcordium, and a diffuse pulsation most marked in the second left interspace. A pronounced thrill with maximum intensity over the pulmonary area was palpable throughout the cardiac cycle. On auscultation a

very loud harsh bruit was heard over the præcordium and at the back of the chest, most marked in the second left interspace near the sternum; the bruit continued throughout systole and diastole with systolic intensification. In addition a loud "bang" was audible over the pulmonary area during systole. X ray examination showed the heart to be considerably enlarged to the right, as well as to the left. The aorta was dilated, but there was no evidence of aneurysm. The electrocardiogram showed great increase in amplitude of the ventricular deflections, with an inverted T wave in lead 1, but no other abnormality. The systolic blood pressure was 200 mm. Hg, and the diastolic 90. The blood picture showed a polycythæmia of 8,375,000 red cells per c.mm., with a colour index of 0·58. The Wassermann reaction was negative. The patient had slight irregular fever for the first three weeks only, and he was discharged after two months, considerably improved in general condition. A tentative diagnosis was made of patent ductus arteriosus with superadded endocarditis.

He was readmitted in June, 1923, after being under observation in the out-patient department periodically. His general condition had deteriorated, and symptoms of cardiac failure were now present. There was œdema of both legs and moderate enlargement of the liver. The spleen was palpable. On examination of the heart much the same physical signs were found, the lungs, however, showing bubbling râles and rhonchi all over the chest. The temperature ranged from 99° to 102° F.; the pulse from 100 to 120 per minute, and the respirations were increased to 40 per minute. The blood examination now showed marked anæmia, the red cells being 2,700,000 per c.mm., and the leucocytes 9700. No tubercle bacilli were present in the sputum. The patient's condition did not improve under treatment and he died one month after admission.

Post-mortem Examination.—The heart was greatly enlarged and both ventricles were hypertrophied, the left ventricular muscle being 9/10 of an inch thick, and the right 4/10. A massive warty vegetation, measuring 1¼ by 1 inch, was found completely filling the lumen of the pulmonary artery, extending from the valves to slightly beyond the bifurcation, and firmly adherent to the anterior wall of the vessel. The ductus arteriosus was patent, measuring 3/5 inch (1·5 cm.) in length, its lumen being partly filled with small warty vegetations which protruded from the aortic orifice of the canal. Two small calcified areas were present in the wall of the aorta; one just below the ductus opening, the other on the convexity of the aorta directly opposite the ductus opening. On passing a probe along the canal from the aortic aspect, it was found to be buried in the mass of vegetations in the pulmonary artery previously described. The pulmonary cusps were the seat of extensive vegetations, growing mainly from the ventricular surfaces. Between the right anterior and posterior cusps was a mass 1 inch long extending upwards into the pulmonary artery and downwards into the ventricle, causing great distortion of the posterior cusp. The aortic cusps were covered on their ventricular surfaces with luxuriant vegetations; in addition, both the mitral and tricuspid valves showed small recent deposits, situated mostly on their auricular surfaces. The lungs showed brown induration and great œdema, but no infarction. The liver weighed 40 oz., and on section many small inflammatory areas were seen, which microscopically proved to be foci of round-celled infiltration around branches of the hepatic artery. Sections of the kidneys revealed a mild degree of embolic glomerular nephritis.

The above case is a good example of subacute bacterial endocarditis engrafted on a congenital lesion. The infective process appears to have commenced at the pulmonary end of the ductus arteriosus and to have spread along the wall of the pulmonary artery, finally involving the valves.*

Hamilton and Abbott[10] have described a similar case, and have collected ten others from the literature. In their own case a large oval mass of vegetations was present on the wall of the pulmonary artery, but the valves had escaped. From a careful histological study they conclude that the process originated in the pulmonary end of the ductus as a result of invasion of the intima at the point of maximum strain, and not as an embolic infection via the vasa vasorum. Of their 11 cases the wall of the pulmonary artery was involved in all, the wall of the ductus in nine, the wall of the aorta in seven, while the pulmonary valves were affected in two cases only. In a similar case described by Horder[3] the aortic valves were diseased, in addition to the mass of vegetations on the wall of the pulmonary artery which started at the ductus but did not extend to the pulmonary valves.

The fact that the pulmonary valves so frequently escape make it quite clear that the process originates in the artery wall, most probably at the site of the ductus. This extensive endarteritis would appear to be peculiar to the pulmonary artery. In this connexion the case described by Weber and Fürth,[11] of a man, aged 27, who had had gonorrhœa, is of interest, in that the process occurred without there being a congenital defect or valvular lesion. In several of the above cases the artery was involved as far as the medium-sized branches, and in four case mycotic aneurysms were also present.

2. *Defects of the Inter-Ventricular Septum.*

The post-mortem records of the Middlesex Hospital since 1860 contain seven cases of infective endocarditis in which this lesion was present. In one case a congenital aperture in the undefended spot was the seat of a mass of vegetations which projected into the right ventricle and involved the septal cusp of the tricuspid valve. In another case stenosis of the conus arteriosus was also present, the constricted portion being surrounded with fibrinous vegetations. In a third case the stenosed orifice of an aberrant pulmonary artery was fringed with vegetations, while the valves were healthy. Yet another case of especial interest was one described by Dr. Thompson in 1877, in which two perforations of the ventricular septum at the site of an aneurysmal bulging were fringed with vegetations, which had spread into the conus arteriosus and involved the pulmonary valves, causing incompetence. These perforations were considered as acquired, but from their situation in the membranous part of the septum it seems possible that a congenital defect was originally present. Five saccular aneurysms occurred on branches of the pulmonary artery. The specimen is preserved in the museum of the Middlesex Hospital.

In the cases reported in the literature, vegetations were commonly found around the margin of the aperture, spreading to the ventricles, either contiguously or forming deposits on the wall opposite. The pulmonary, and frequently the aortic, cusps were also involved. Where one side of the heart alone is affected, paradoxical embolism may occur.

3. *Pulmonary Stenosis.*

In our analysis of 198 cases of infective endocarditis there is no instance of its occurrence in this congenital lesion. This relative infrequence is probably due to the fact that pulmonary stenosis has a more serious prognosis than the other two lesions we have discussed; and therefore subjects are less likely to reach the age at which infective endocarditis is most common. Dickinson[12] described an interesting case of its occurrence in a male of 4½ years, in which thrombosis of the pulmonary artery resulted.

Considerations.

There is as yet, we feel, no wholly satisfactory explanation of the fact that infective endocarditis of the left side of the heart is far more common than that of the right. The study of the inception of the infective process is simplified by considering it as it occurs in congenital lesions, more especially of the pulmonary valves, for thus can rheumatic damage be excluded.

The common lesions—namely, defects of the septa and patency of the ductus arteriosus—might predispose to infection of the pulmonary valves in the following ways:—

1. The rise of blood pressure produced in the lesser circulation exposes the pulmonary valvular apparatus to increased strain. That this does occur is certain, as evidenced by the enlargement of the right ventricle and dilatation of the pulmonary artery so often present. In cases of patent ductus arteriosus Abbott[13] has found atheromatous changes in the pulmonary

* The case, and subsequently the specimen, were shown by Dr. C. E. Lakin at the Medical Society of London. (Med. Soc. Trans., vol. xlv., p. 29.)

artery, and even aneurysm of this vessel has been described (Durno and Brown).[14] There is, however, little reason to suppose that this increased pressure is a factor in the predisposition to infective endocarditis. In other conditions, where a high pulmonary pressure occurs, there is no special liability to infective lesions. Stokes[15] observed that in cases of atheroma and dilatation of the pulmonary artery, secondary to emphysema, the valves were usually unaffected. Again, in the cases of atheroma and dilatation of the pulmonary artery described by Rogers[16] as occurring in India, and which he attributes to syphilis, the valves were normal. Furthermore, in the parallel instance of the aortic valves in cases of hyperpiesis with raised systemic pressure, infective endocarditis is unusual.

2. The thickened endocardium usually present at the site of congenital apertures forms a suitable soil for bacterial invasion. Horder considers this factor of prime importance, and points out that in the case of septal defects vegetations occur round the margins of the aperture and on the wall of the ventricle at the point upon which the stream of blood impinges. Local thickenings of the intima occur opposite the opening of a patent ductus arteriosus, both in the aorta and in the pulmonary artery, but it appears probable that the infective process begins at the pulmonary orifice of the ductus rather than at these thickened areas which in our case bore no vegetations.

3. Admixture of venous and arterial blood. The frequency of left-sided endocarditis and the immunity of the right side to infection has been attributed to the fact that arterial blood is the more favourable medium for bacterial growth. It is certainly true that dextral endocarditis is more common in those congenital lesions which allow arterial blood to reach the right side of the heart.

Summary.

It is evident that local thickening of the endocardium and increased local strain are factors in determining the onset of the infective process in congenital heart disease, but we suggest that the access of arterial blood to the right heart may explain the unusual frequence of dextral endocarditis in these cases.

In our opinion the preponderance of left-sided lesions in endocarditis in general cannot be adequately explained by the higher blood pressure in the systemic circulation, and we are impressed with the possibility that it may be due to the changed composition of the blood after passing through the lungs.

We are indebted to Dr. C. E. Lakin for his kindness in allowing us to publish the details of the case formerly under his care.

References.

1. Lewis, T., and Grant, R. T.: Heart, 1923, x., 21.
2. Osler, W.: Brit. Med. Jour., 1885, i., 467, 522, 577.
3. Horder, T. J.: Quart. Jour. Med., 1908–9, ii., 289.
4. Washbourn, J. W.: Brit. Med. Jour., 1899, ii., 1269.
5. Cowan, J., and Ritchie, W. T.: Diseases of the Heart, 1922.
6. Glynn, T. R.: THE LANCET, 1903, i., 1007.
7. Abrahams, B.: Brit. Med. Jour., 1899, ii., 1273.
8. Libman, E., and Celler, H. L.: Amer. Jour. Med. Sci., 1910, cxl., 516.
9. Pitt, G. Newton: Allbutt and Rolleston's System of Medicine, 1910, vol. vi., 310.
10. Hamilton, W. F., and Abbott, M. E.: Trans. Assoc. Amer. Phys., 1914, xxix., 294.
11. Fürth, K., and Weber, F. P.: Edin. Med. Jour., 1905, N.S., xviii., 33.
12. Dickinson, W. L.: Trans. Path Soc. Lond., 1897, xlviii., 57.
13. Abbott, M. E.: Osler and McCrae's Modern Medicine, 1915, vol. iv.
14. Durno, L., and Brown, W. Langdon: THE LANCET, 1908, i., 1693.
15. Stokes, W.: Diseases of Heart and Aorta, Dublin, 1854.
16. Rogers, L.: Quart. Jour. Med., 1908–9, ii., 1.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SOCIETY.

The opening meeting of this society, at which Prof. J. S. Haldane, Oxford, is to read a paper on the Physiology of Acclimatisation to High Altitudes, has been postponed from Friday, Oct. 17th, till the following Wednesday, Oct. 22nd, at 8.15 P.M.

A PLEA FOR THE PRESERVATION OF THE PREMAXILLARY BONES IN CONGENITAL CLEFT PALATE.

BY ALBERT D. DAVIS, B.SC., M.D. NEB., D.D.S.

(From the Department of Oral Surgery, University of Nebraska, College of Medicine.)

IT has been my good fortune to assist a noted oral surgeon in the compilation of data from all parts of the world on cleft palate and cleft lip. In going over the literature thus assembled, it seems to me that there is probably no other field of surgery in which there is such a variance of opinion as to the best time for operation, the objective aimed at, the technique to be employed, and the final results of operation. Most authors in this field seem to agree that the clefts of the lip should be closed, and some agree that clefts of the palate should be closed too. Others seem to be satisfied to approximate the hemispheres of the hard palate without effecting union. The more individual the operation and the easier its performance, the greater the tendency becomes to forget the primary objective where deformity exists—the restoration of normality as far as possible.

Brophy[1] gives the following current definition of cleft palate: "A congenital deformity, characterised by a fissure or fissures of the palate due to arrested development." In other words, congenital cleft palate is considered to be the result of incomplete development of the tissues necessary to enter into its normal formation. "The opinions of authors thus expressed," Brophy goes on to say, "have been based, no doubt, on their observation of the open space between the oral and nasal cavities. The error is easily explained, for the open space suggests an absence of tissue. But the deformity, the statements of many authors to the contrary notwithstanding, is *not* the result of *congenital deficiencies* of the parts in question, nor is it due to *arrested growth of the palate. All children who have congenital cleft palate, with rare exceptions, have in the palate at birth* the normal amount of tissue. The palatine plates, however, are frequently misplaced upwards, and the bones are not united in the middle line. The palate is *cleft*. Later in life it may atrophy for want of use. Therefore, a cleft palate is a fissure, a separation of well-developed parts, not (with rare exceptions) the result of arrested development nor failure of a normal quantity of tissue to enter into its structure." Most authors are now agreed that this is so, and, with this fact before us, it seems that the only logical course to pursue would be to preserve, as far as possible, all of this normal amount of tissue, assemble it into correct relationship, freshen its edges, unite and immobilise it until healing occurs. Nevertheless, some surgeons who agree with and support the definition itself do not follow this logical course. Either the definition is forgotten in the subsequent operative procedure advised, or it is totally disregarded.

There are many minor offences, but my object is to condemn the practice advised by certain authors relative to the disposition of the premaxillary bones in the more severe forms of cleft palate. In these cases the premaxillary bones are usually protruded for some distance anterior to the maxillæ, making a very ugly deformity. (Figs. 1 and 2.) Although these bones are protruded, and have the prolabium or central portion of the lip attached to them in front, it must be remembered that they form a part of the normal ununited tissue spoken of in the definition. Yet we find repeated instances in the literature where the author recommends that these bones be excised and the lip closed, in the expectation that the maxillæ will be moved more nearly together.

To anyone who has a well-grounded education in this special field of surgery, the excision of the pre

[1] T. W. Brophy: Oral Surgery.

maxillary bones in order to bring the lip over the maxillary bones is to be thought of in the same light as would be the amputation of a limb to heal a slight flesh wound. And yet, let me quote from a book published in 1919: "In severe cases the premaxillæ should be removed entirely, as the maxillæ then fall together and render the subsequent closure of the

FIG. 1. FIG. 2.

FIG. 1.—Tripartite cleft palate, showing protrusion of the premaxillary bones.

FIG. 2.—Front view of child with premaxillary bones protruded. Notice rounded elevations showing tooth buds in position.

palatal cleft (which is usually present in these cases) an easier affair. The falling in of the lip which results from this course can be obviated by suitably designing the denture which carries the incisor teeth." The same authors advise "gouging out the teeth in the premaxillæ" if an attempt is made at its reposition and it does not fit well. They also state that "firm union of the bone rarely occurs."[2]

An American author, an oral surgeon in one of the large eastern hospitals, says in his text-book: "In some cases of cleft palate, where the intermaxillary bone is turned up and attached to the septum of the nose in front, it is necessary to remove it altogether. In this case, the incisor teeth, both temporary and permanent, will be lost, as their germs are contained in these intermaxillary bones."[3] In Spain a book by Gaillard y Nogue, "Tratado de Estomalogia," shows in Figs. 150 to 152 inclusive, the treatment of double hare-lip. The premaxillæ have been removed, and during the closure of the lip the greater part of the prolabium is cut away, leaving an irreparable deformity.

When a patient is brought with a congenital cleft palate, complicated with premaxillary protrusion and double cleft lip, it is the duty of the surgeon to correct the deformity, not to leave the parts beyond the stage of correction. In the days of Celsus, 42 B.C. to A.D. 37, the lip was closed over the deformity, no attention being given to the palate, so far as history records. Some surgeons of the present day have gone a few steps farther and trim away a section of the vomer, which allows the premaxillæ to be pushed backward and, without anchorage, freshened edges or immobilisation of these bones, suture the lip together, depending upon the traction of the orbicularis oris muscle to hold the bones in place until Nature heals the wound. A bony union cannot occur, and the bony cleft is only modified in extent—not closed. In cases of single clefts, the operation as originally designed by Celsus almost 2000 years ago is to-day advocated by many, with this exception, that they advise the closure of the cleft in the soft tissues at a later date, leaving the bones ununited.

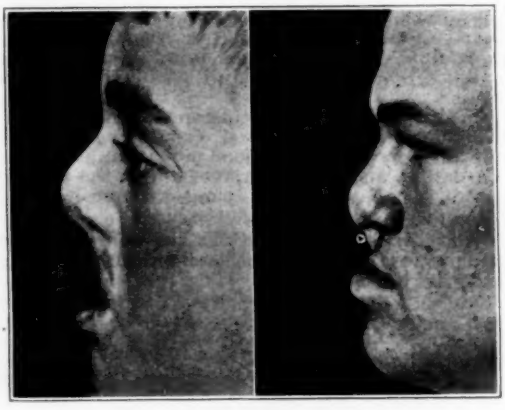
[2] Mills and Humphery: Text-Book of Surgery for Dental Students: Congenital Malformations of the Face.
[3] Robert H. Ivy: Applied Anatomy and Oral Surgery.

When operations of this type are advised and taught to students by men of high standing in the profession, a plea for further enlightenment is necessary. Every obstetrician should be informed of the necessity of the proper procedure for these unfortunate children and should advise the parents to consult a specialist in this field.

When, as Brophy has stated,[1] there are innumerable failures due to improper operative procedures, it is time some definite stand should be taken to correct these appalling disasters. It is obvious to anyone truly informed in this work that, inasmuch as the premaxillary bones are a part of the normal arch and lip, their preservation should be of paramount importance. In constructing a normal lip a normal bony arch is essential. The premaxillæ, in these cases, form the most important part of the arch, as normal facial contour and expression are impossible without them. Not only is this true, but the premaxillæ contain tooth buds of usually two to four teeth which are important for the patient's future dentition.

The objective of the surgeon in these cases should be the correction of the deformity, and the restoration to normal as nearly as possible of all the displaced tissues. Ease in the accomplishment of succeeding operations and the virtues of artificial dentures are insufficient reasons for the excision of the premaxillæ. Lack of knowledge of their value to the patient and to the operator's ultimate success, in the light of surgery of the present day, is totally inexcusable. Upon the preservation of these protruding bones—unsightly as they appear, attached to the lower part of the nose like some neoplastic tissue—depends the formation of not only a normal bony arch, containing the teeth, but a normal lip and nose as well. If normality and correction of the deformity *are* the goal of the surgeon, excision of the premaxillæ renders

FIG. 3. FIG. 4.



The results of excision of the premaxillary bones in infancy. After this mutilation normality can never be established.

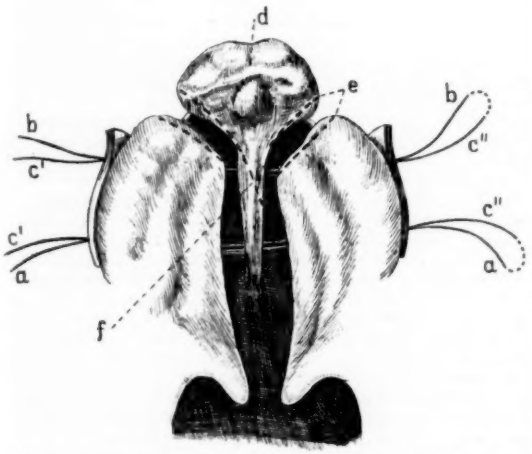
this achievement impossible not only to himself but to any surgeon who may, unfortunately, follow him. (Figs. 3 and 4.)

Brophy[1] teaches that a bony cleft should be considered and treated as an ununited fracture. This is not a new procedure, but has been the foundation of his work for over 40 years. Fracture surgery teaches freshened edges, fixation, and immobilisation. If the surgeon will only visualise the cases of cleft palate with premaxillary protrusion as potential fracture cases with displacement and so treat them, then, and then only, will normality be established and the practice of excision of the premaxillæ be abolished.

Surgical authors who advocate the sacrifice of these important parts fail to comprehend the conditions of an ununited fracture and the treatment essential to

its cure. Every properly educated and experienced surgeon knows that an ununited fracture cannot be cured without first exposing the fractured ends of the bone, denuding them of intervening soft parts, including the cicatricial and periosteal tissue, placing bleeding cancellated bone into contact with bleeding

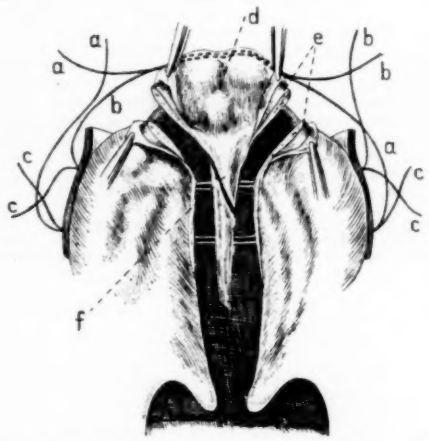
FIG. 5.



Method of treating tripartite cleft palate. The wires have been introduced and the lead plates adjusted. The dotted lines indicate the incisions. It will be noticed that the vomer is cut obliquely so as to allow it to be moved backward into proper position. The wires, &c., are lettered in order that they may be identified in the subsequent figures. (Figs. 5–8 have been redrawn from Brophy.)

cancellated bone, correctly adjusting and immobilising them, and closing the soft parts over them so that perfect union and solidification will occur. Then the premaxillæ will be in their correct position and normality established. (Figs. 5 to 8.)

FIG. 6.



The second step in the procedure showing the flaps made in the muco-periosteum and the compact bone removed from the surfaces to be placed in contact. It will be noticed that wire sutures have been carried through the maxillæ and the vomer. These sutures will enable the surgeon to bring the bones into close proximity.

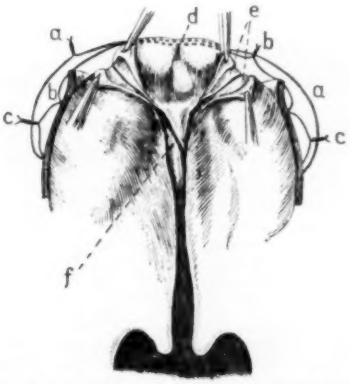
Conclusions.

1. The premaxillæ, even when protruded, are not abnormal nor excess tissue, but are normal tissue misplaced.

2. The function of the premaxillæ is to complete the normal, bony upper arch, support the lip and lower part of the nose, and give symmetry and normality to the face.

3. The author who recommends the excision of the premaxillæ must share equally with the surgeon who follows his method the blame for the permanent mutilation of the child.

FIG. 7.



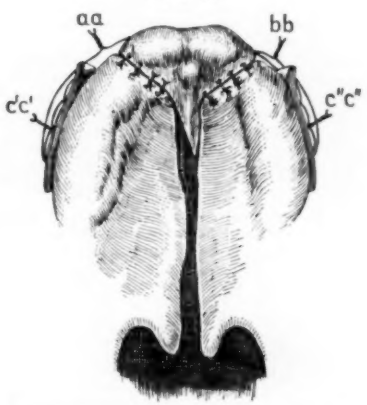
The flaps have been made in the membranes and the vomer is in correct position. The wires have been partially twisted. It will be noticed that the wire *a* is brought forward and passed beneath the muco-periosteum anterior to the premaxillary bones and twisted upon the right side. The wire *b* is carried forwards in the same manner and twisted upon the left side. The wire *c* is twisted against the lead plate so as to force the separated bones together. The *c* wires are twisted before the *a* and *b* wires.

4. Cases of cleft palate with premaxillary protrusion must be visualised as cases of potential fracture with displacement and modern methods of bone surgery employed to restore normality.

5. Excision of the premaxillæ destroys all hope for normality and produces permanent mutilation.

6. The obstetrician should be fully awake to the importance of consulting specialists in this field.

FIG. 8.



The premaxillary bones have been placed in their normal position and the flaps sutured with horse-hair. The mucous membrane over the vomer and edges of the hard palate have been split and the underlying bone freshened so that union takes place without placing any sutures in the median line. The soft palate is united later.

7. Ease in the accomplishment of succeeding operations and the virtues of artificial dentures are insufficient excuses for the excision of the premaxillæ.

8. Preservation of the premaxillæ, assembling the bones in their proper relationship, and immobilising them until union occurs are necessary if normality is ever to be obtained.

Clinical and Laboratory Notes.

A CASE OF IRON-STONE PHTHISIS.

BY SIR KENNETH GOADBY, K.B.E., M.R.C.S. ENG., D.P.H. CAMB.,
MEDICAL REFEREE FOR INDUSTRIAL POISONING.

The following case of phthisis in an iron-stone worker is of interest in its bearing on the action of dust as a lung irritant predisposing to secondary tuberculous infection.

A. B., iron-stone miner employed in winning hepatite iron ore. He was engaged in the use of compressed air apparatus, by means of which holes are driven into the rock for the insertion of blasting material.

He joined an approved society in July, 1912, with no history of disease. In May, 1918, he was certified as suffering from influenza; recovered at the end of 20 days. On Dec. 13th, 1923, he was treated for chest complaint, became progressively worse, and died on Feb. 17th, 1924.

Radiographic Examination.—In May, 1919, he was examined radiographically along with 11 other cases of iron-stone miners by Mr. C. Thurstan Holland, who reported:—

"Screen examination: Diaphragm moved equally and well both sides; no definite abnormality detected. Has worked for three years on a drilling machine. Radiographic plate: Linear shadowing along the bronchi is exaggerated; there are numerous rather large, opaque spots present, especially well-marked along the linear shadows extending from the right root of the lung. Smaller spots are evident along the same lines in the left lung."

Death Certificate.—"Death from pulmonary tuberculosis 1½ months in duration, verified by post mortem."

Lung Examination.—The right lung only was sent for examination. When placed in water the upper lobe sank, but the middle and lower lobes floated. The upper lobe showed numerous large, white, bulging areas; was generally consolidated and hard to the touch. There were numerous old adhesions and evidence of recent and old pleurisy. There had evidently been some cardiac adhesions in addition. On incising one of the white swellings a large amount of brown, thick, purulent material escaped. Films made from the pus showed numbers of tubercle bacilli, pus cells, polymorphonuclear and mononuclear cells on staining by Giemsa. Gram stain showed large numbers of diplococci, Gram-positive, many capsulated. Another portion of the lung was excised under aseptic precautions and cultivations made therefrom. Pneumococci were isolated. Portions of the upper and lower lobe were examined histologically, stained, (1) hematoxylin eosin, (2) Van Gieson, (3) Gram-Weigert, (4) potassium ferrocyanide.

Microscopical Examinations of the Sections showed a generalised consolidation, complete blocking of the majority of the bronchioles; the alveolar tissues almost entirely replaced by fibrous tissue. A large amount of dust is situated in the immediate vicinity of the blocked bronchi and throughout the consolidated tissue. The arrangement of the fibrous tissue is loose, and does not show the same nodular formation that is present in cases of advanced silicosis, the fibrosis being of a more generalised and irregular type. The specimens stained with potassium ferrocyanide, both in macroscopic and microscopic sections, showed a large amount of diffuse blue staining. In the macroscopic specimen the blue staining follows the lines of new fibrous tissue formation, in some cases being parallel to the smaller bronchioles, showing that the iron had diffused into the tissues. The microscopic sections showed intense iron staining, particularly around the occluded bronchioles, but also diffusely through the fibrous tissue. With the polariscope a certain number of brightly refracting crystalline bodies were found scattered about in the fibrous tissue, but on comparison with a case of silicosis these refractile bodies are much smaller in number. On the other hand, even a normal lung will show a few of these bodies.

Considerable interest attaches to this case. (1) The development of phthisis appears to have been predisposed to by the irritative condition of the lung; (2) the dust inhaled was largely a compound of iron, but the analysis of dust from the mine gives the presence of small quantities of quartz.

In silicosis of the lung occurring in ganister workers and gold miners there is no question that the inhaled silica particles act as an irritant, setting up chronic fibrotic changes, the tissue being secondarily infected with the tubercle bacillus giving rise to phthisis. At one time the angularity of the particles breathed was supposed to determine the fibrous tissue production, but latterly, from the researches of Gye and Kettle[1] and Kettle,[2] it seems probable that the silica undergoes solution and acts as a tissue poison. Haldane[3] considers that the irritative action of inhaled dusts depends on their solubility, or that they contain occluded substances—e.g., coal dust—that the soluble or occluded substances produce a physiological reaction and the particles are got rid of, and it is only the particles which are physiologically inert that give rise to inflammatory changes leading to susceptibility to tuberculous infection. In the present case the amount of silica would be small, but the amount of iron-stone dust of a soluble nature exceedingly large, and that this actually became dissolved and permeated the tissues is shown by the iron staining of the specimens. It would seem therefore possible that the iron carbonate and oxide had a specific irritative action because of its solubility rather than its inertness.

It is somewhat significant that X ray photographs taken in 1919 show extraordinary similarity to cases of early silicosis as observed in the Rand mines in South Africa and the Broken Hill mines in Australia.

Whatever point of view we may take, it can hardly be doubted that the presence of large quantities of iron in the lung had an injurious effect in this case; on the other hand, there is no record of the other ten iron-stone miners who were photographed at the same time as this case having succumbed to tuberculosis, and no general conclusions can be therefore drawn that inhalation of iron-stone dust is a common cause of tuberculosis of the lung in iron-stone miners.

References.—1. Gye, W. E., and Kettle, E. H.: Brit. Jour. Exp. Path., 1922, iii., 241. 2. Kettle, E. H.: Ibid., v., 158. 3. Haldane, J. S.: The Effects of Dust Inhalation in Mines, December, 1923, p. 11.

AN UNUSUAL FORM OF LEFT INGUINAL HERNIA.

BY JOHN A. C. MACEWEN, M.B., C.M. GLASG.,
SURGEON, GLASGOW ROYAL INFIRMARY; CLINICAL LECTURER, UNIVERSITY OF GLASGOW.

The following case presents several points of interest which justify its being placed on record.

The patient, a man of 27, was admitted to the Royal Infirmary, Glasgow, complaining of attacks of pain which radiated from the left inguinal region across the lower abdomen. He stated that he had a hernia in infancy, which was easily reduced, and was treated by skein of wool, and later by a truss. The hernia disappeared, and did not return until the age of 19, when he was for the first time engaged in heavy work in a munition factory. At this time the hernia was about the size of an egg, generally disappeared when he lay down, and sometimes remained away for weeks at a time. He again began to wear a truss, and had no difficulty until one morning, shortly before admission, when the swelling appeared just as he was about to put on the truss. On this occasion there was great pain, and the hernia was reduced with difficulty. The hernia had not returned since, but he had frequent attacks of pain.

On examination no swelling was visible or palpable. The cord was possibly slightly thicker than normal, but the external ring was not enlarged, and there was no impulse on coughing. Patient, however, said that the pain he suffered at times was so severe that he desired operation.

Operation was accordingly performed, and a congenital sac was found, containing two appendices epiploicæ. These appendices were attached to the large intestine by long narrow stalks, which passed through an extremely narrow opening at the upper end of the sac. The aperture was just sufficiently wide to permit of the passage of the stalks without strangulation, and thus the appendices were retained in the sac and dragged upon the large intestine which lay in the abdominal cavity close to the narrow aperture in the sac. The radical cure was performed and patient made an uninterrupted recovery.

The case is interesting, apart from the pathological aspect, in respect of the impossibility of diagnosing the condition before operation, and the readiness with which a suspicion of malingering might have arisen had there been a question of compensation.

I am indebted to Miss H. L. Paterson, my junior house surgeon, for the preparation of notes on the history of the case.

Reviews and Notices of Books.

SOCIAL INSURANCE, WHAT IT IS AND WHAT IT MIGHT BE.

By ALBAN GORDON, B.Sc., F.C.S. London: Fabian Society and George Allen and Unwin, Ltd. 1924. Pp. 150. 6s.

THIS excellent exposition of the whole subject of social insurance is timely, because the differences of view between the medical profession and the approved societies in respect of the working of the National Insurance Acts are coming almost immediately under the scrutiny of a Royal Commission; in a still better sense it is timely, for it is an earnest attempt to look far ahead, and foresight at any date is opportune. All political parties have placed social insurance in the forefront of their programmes, but the promises have carried little conviction, for many of the politicians have not grasped the principles which must underlie all schemes, so that they have been unable to explain either why they think certain developments desirable, or how they propose to mould affairs in the future. Mr. Gordon's book should be instructive to those who are called upon to take active leadership, and should also inform the public upon those essential facts whose comprehension is necessary if legislative proposals are to be criticised with intelligence, and either helped to fruition or relegated to obscurity in accordance with their merits.

The book is divided into two parts, of which the first sets out the subjects appropriate for insurance, analysing the treatment which they receive at the present; while the second consists of a scheme for the unification of social insurance, where the necessity, indicated in the first part, is assumed for the coördinating and supplementing of existing diverse systems. The need for a national scheme of health insurance is not discussed, and indeed it has been abundantly proved, but so has the justice of some of the complaints against the working of the methods as we now know them; for no one can deny the inadequacy of the benefits provided by the National Insurance Act, the overlapping of the thousands (literally) of separate bodies involved, the neglect of preventive measures in disease, and the lack of personal touch in administration. The grounds for these complaints are set out here, and analysed, with the inference that the working of the approved societies, viewed from the broad national aspect of the prevention and cure of sickness, is proving a failure. Full credit is given to the societies for bringing the Act into operation, and for arduous and anxious labour in carrying-on through the first 11 years of national insurance, and it is suggested that many of the failures and anomalies would have been avoided had the original qualification for an approved society remained a membership of 5000 at least, the multiplicity of small societies having hopelessly damaged the scheme. And at this point in the book a short but revolutionary proposal, as a solution of the main obstacle to efficient action and development, is put forward succinctly. In Mr. Gordon's words, "A simple and efficacious solution lies ready to hand—remove medical benefit from the Insurance Act altogether," because the prevention of the incidence of illness and its prompt treatment upon recognition do not form a logical section of any organisation taking charge of sickness benefit and disablement benefit; for these are self-contained cash affairs, can depend on an actuarial basis, and can be restricted to persons paying contributions—none of which holds good for what is implied by medical benefit. Perhaps if the insurance committees, specially created for the purpose of administering medical benefit in every county and county borough, had worked in accordance with the original designs of the Act, and had taken a large share in the handling of local sanitary affairs, the position that we are now in would have been less critical, but while these committees confine their activities to the disbursing of monies and the scrutiny of prescriptions, the cost at which the country is for their maintenance seems inexcusable. While the insurance committees function only in such a manner medical benefit remains much as it was before the Act—that is to say, it has become the rendering of service by individual practitioners to their insured patients, for these extremely busy men with little machinery by which to obtain the services of specialists or the accommodation of institutional treatment for their charges, cannot deal both with the mass of existing disease and be responsible for the early diagnosis of such maladies as, for example, tuberculosis and venereal disease. Moreover, medical benefit as at present devised has been only directed to a limited section of the working class, and the position of the average middle-class household remains unaffected by the Act, though this class is quite unable to afford such a draft upon its resources as is implied by a major operation or a lingering illness.

The scheme to meet the circumstances, which forms the second part of the book, is a brave attempt to look ahead, based upon a supposition that the need for profound alteration in our system of social insurance is proved; it is put forward tentatively as *a* way, and not as the *only* way of dealing with what is termed "the slimy mess of the Poor-law" and the curse of unemployment. The basis of this comprehensive scheme for national social assurance assumes that the risks of sickness, unemployment, accident, widowhood and orphanhood, indigent old age, and premature death can be provided for by insurance, and can all be administered in one comprehensive scheme, a State national minimum of insurance being insisted on as a corollary to wage minimums and as supplementary to measures for the prevention of destitution. Such compulsory insurance is based in the scheme upon local territorial units, and graded with relation to maintenance of a reasonable standard of existence, while the scheme throughout provides for the prevention of the risks which it proposes to compensate. The contributions from employer and employed, forming the gross income, are to be subsidised, it is proposed, not only from the Central Exchequer, but from the local rates, the last sums implying merely a diversion of the existing Poor-law rate. The insurable matters being thus provided for, schemes for medical benefit—i.e., for the public health of the country—would fall into their logical place to be administered by the public health authorities, full coöperation being insured between the medical practitioner and the State officials, medical and lay.

This is an excellent little book.

CLINICAL STUDIES IN EPILEPSY.

By DONALD FRASER, M.D., F.R.F.P. & S. Glasg., Consulting Physician, Royal Alexandra Infirmary, Paisley. Edinburgh: E. and S. Livingstone. 1924. Pp. 240. 7s. 6d.

THERE is no disease of which the causation is more obscure than epilepsy. The object of Dr. Fraser's book is to bring together reports of a number of cases of different varieties of the disease in the hope that from their discussion some hint of the pathogenesis of epilepsy may emerge. His arguments are based on the work of Hughlings Jackson, and he quotes Jackson's words again and again with implicit confidence. This attitude of reliance on a great teacher has led, however, to a fault in the book—a lack of precision in the author's own views on the nervous mechanisms at work in epileptic manifestations. In one of the citations (p. 21) there occurs the phrase, "epilepsies in the scientific sense—that is, they depend on discharges beginning in some part or parts of the cortex cerebri," and later on (p. 67) Dr. Fraser's comment, "This hypothesis of a discharging lesion is a very convenient one, though what takes place in the highest levels is, we believe, not a discharge of energy alone but a deprivation of it, leading to uncontrolled discharge from lower and subordinate centres." But surely this distinction is vital, for on

it depends whether we regard epilepsy as the result of irritation or of inhibition of the highest centres, and our views of causation will vary accordingly. The hypothesis which looks upon the epileptic attack as a release phenomenon, consequent upon an inhibition of the highest centres, is the one which is the most satisfactory, and although various chapters of this book are imbued with it, it is a pity that it is not stated with more insistence. The hypothesis is applicable to all the psychic and motor disturbances —aphasia, amnesia, fugues, loss of consciousness, mania, convulsions, and twitchings—described in the interesting case-reports; it may be applied also to the negative sensory phenomena—e.g., temporary scotomata—and its application to the positive sensory disturbances, though less easy, is not impossible. Vaso-constriction, if the possibility of its occurrence in the cerebral vessels be granted, affords a satisfactory cause of cortical inhibition, and it is this theory that the author supports; he argues strongly in its favour, and sees its causal agent in some toxin allied to histamine. The chapter devoted to the effects of "the cerebro-spinal reflex" is less convincing. The main interest of the book lies, and is meant to lie, in the case-reports, and here is food for much thought.

Dr. Fraser reproaches British neurologists with the fact that the writings of Hughlings Jackson have never been published collectively, and it may be hoped that at least a representative selection of his papers will be brought together before long.

PATHOLOGICAL TECHNIQUE.

Eighth edition. By FRANK BURR MALLORY, A.M., M.D., Pathologist to the Boston City Hospital; and JAMES HOMER WRIGHT, A.M., M.D., S.D., Pathologist to the Massachusetts General Hospital; Assistant Professor of Pathology, Harvard Medical School. London and Philadelphia: W. B. Saunders Company. 1924. Pp. 666. 32*s.* 6*d.*

THIS work has long ago established itself as a popular and reliable manual of pathological technique. For this, the eighth, edition several sections have been added or rewritten by various collaborators, and the whole book has been thoroughly revised. While the general level of the different sections is high, some, notably that dealing with histology, are outstanding. Should any omissions be considered advisable in future editions, the pages dealing with animal inoculations might well be sacrificed. In its present form this chapter is a poor substitute for practical demonstrations, and is not up to the standard of the rest of the book. We can recommend this volume as one which few laboratory workers can afford to ignore.

MODERN METHODS OF TREATMENT.

By LOGAN CLENDENING, M.D., Assistant Professor of Medicine and Lecturer in Therapeutics, Medical Department of the University of Kansas. London: Henry Kimpton. 1924. Pp. 691. 45*s.*

WE welcome this book as a rational and straightforward exposition of the present-day outlook on treatment. Singular skill is shown in the apportionment of its true value to each of the methods at our command. It is remarkably free from that type of traditional treatment which is often described but seldom used; on the other hand, it is no less free from the over-enthusiasm of the specialist. Further, the rationale of treatment is well explained on a physiological basis. The section on drugs contains unusually little dross. The first half of the book, consisting of 440 odd pages, is on the "Methods used in Treatment," of which space 140 pages are devoted to drugs. Dietetics, in the same part of the book, fills nearly one hundred pages and gives thoroughly practical hints. The various methods of treatment described in the rest of this section of the volume, such as the production of artificial pneumothorax, transfusion of blood, gastric lavage, are given with sufficient detail to make them of definite value to the man who is called upon to carry them out. In the second portion of the book, entitled the "Application of Therapeutics to Particular Diseases," the facts mentioned in the earlier portion are collected and applied. The diagrams are well chosen, many of them being pictorial descriptions of the stages of the processes used. The pictures of Sippy's [1] method of treatment for gastric ulcer will fix it in the memory in a way which no written account or table of figures could achieve. Agglutination, as shown in another series of pictures, becomes a simple phenomenon to understand. Prof. Clendening's reason for giving no section on antipyretics is interesting—"because the treatment of fever, per se, is a relic of some other age of treatment." But is he right, or at any rate in accord with modern notions, when he says that "fever is the reaction, probably *defensive*, of the body to infection"? We should not, it is true, rashly interfere with a raised temperature, but fever is now generally believed to throw a strain on rather than to defend the bodily mechanism. The book contains a sufficient amount of episode and history to make it pleasant reading. There is a slip in connexion with Thomas Dover, who is said to have recommended his powder in 1762. Dover died in 1742. Generally, this volume deserves high praise; it is so well balanced that it is suitable both as a text-book and as a work of reference, a standing to which few books attain.

AIDS TO PSYCHIATRY.

By W. S. DAWSON, M.D. Oxf., M.R.C.P. Lond., D.P.M., Senior Assistant Medical Officer, Maudsley Hospital. London: Baillière, Tindall and Cox. 1924. Pp. 309. 4*s.* 6*d.*

IN the "Aids" series any approach to uniformity of size must mean that specialised subjects will receive fuller treatment than can be afforded to "medicine" and "surgery" in the volumes with corresponding titles. In this consideration lies the only adverse criticism which this volume is likely to receive. It is, in fact, a text-book differing little in size and scope from several well-known works on the same subject: the difference in bulk is counter-balanced by the use of small type and comparatively thin paper. The student who supposes that he need learn the whole contents of this volume for his qualifying examination will, no doubt, be erring on the right side, and the mistake will stand him in good stead in the future.

The arrangement is on orthodox lines, with a commendably simple classification of varieties of insanity: indeed, a warning is needed that in practice cases cannot easily be relegated to any of these simple categories, and sometimes not at all. There is an excellent chapter on treatment, a full discussion on all the important legal bearings of mental disorder, and a particularly complete chapter on mental deficiency, in which a simplified series of tests of mental age is given—a feature of the utmost practical value. Psycho-analysis is treated with due impartiality, and there is a valuable section on the Theories of the Neuroses (one would rather have said "Hypotheses"). At its extremely moderate price this book is likely to achieve great popularity.

L'ALIMENTATION NATURELLE CHEZ L'ENFANT.

By Dr. MONTEUUIS. With a Preface by Prof. NOBÉCOURT. Paris: A. Maloine. 1923. Pp. 278. Fr.8.

THIS posthumous work of the late Dr. Monteuuis conveys an appeal to French mothers to eschew methods of feeding based on caloric requirements, and to return to the older habits of diet consisting of more natural and less "industrialised" foodstuffs. The author's principal contention is that the *qualitative* value of the various cereals is the important

[1] The death of Prof. B. W. Sippy was announced on August 15th at Chicago in his fifty-eighth year. He had been since 1906 professor of medicine in the Rush Medical College.

factor, and that this varies according to their mode of preparation; white bread is regarded as a national peril. The work consists largely of recipes, and should provide an extremely varied dietary for children.

INFECTION AND RESISTANCE.

Third edition. By HANS ZINSSER, M.D., Professor of Bacteriology and Immunity, Harvard University, &c. New York: The Macmillan Company. Pp. 666. 24*s*.

THE literature on immunity has reached such enormous dimensions that it may be doubted whether any one man is fully conversant with it. Only by exceptional industry is it possible to cope with the flood of modern publications on the subject, and a trained and critical intelligence is needed to divide the wheat from the chaff and to estimate the true value of recorded observations. Under these circumstances a small dogmatic text-book on immunity becomes almost an impossibility, while a more ambitious work may defeat its ends by leaving the student in a state of hopeless bewilderment. Dr. Zinsser follows a middle course with skill and success. His book contains a mine of information, which is developed clearly and logically and with commendable fairness and moderation. Opposing points of view are faithfully recorded, and though the author's personal opinions are never in any doubt, the student is placed in the position to form his own conclusions. For this edition the work has been revised and partly rewritten, and it may be thoroughly recommended as a trustworthy guide to a difficult subject.

INSTRUMENTS AND APPLIANCES FOR OPERATIONS.

Second edition. By Lieut.-Colonel CASTOR. Revised by Lieut.-Colonel CONNOR, I.M.S. Calcutta: Thacker, Spink and Co. 1924. Pp. 34. 1*s*. 6*d*.

THIS little pamphlet describes the requirements for a satisfactory small operating theatre, whether improvised or permanent, and the essential outfit. Lists of the instruments required for various common operations follow, with a few notes as to dressings and the position of the patient during operation. It is all very good and to the point. We would only offer one criticism—there is not really any such organ as the Æsophagus, nor was there even when Æsop anticipated the present authors by also advising the use of a pair of long-bladed forceps in a case of severe dysphagia.

The book is well arranged, and would be of real use to anyone who has to select instruments for operations.

HIPPOCRATES.

Hippocrates and His Successors in Relation to the Philosophy of Their Time. Being the FitzPatrick Lectures for 1921–1922. By R. O. MOON, M.D. Oxf., F.R.C.P. London: Longmans, Green and Co. Pp. 171. 6*s*.

Dr. Moon's admirable lectures should be read in conjunction with the Translation of Hippocrates now appearing in the Loeb Classical Library. The two first lectures deal with Hippocrates in relation to the philosophy of his time and give an excellent account of the various systems of philosophy which affected his opinions—both those schools, such as that of Pythagoras, which existed in pre-Hippocratic times, and those, such as that of Democritus, which were contemporaries of Hippocrates. The last two lectures deal with post-Hippocratic schools of medicine and philosophy. With regard to Pythagoras, Dr. Moon points out that the Greek idea of the soul being a Harmony "seems to have originated from Pythagoras in connexion with Medicine," and he goes on to quote from Plato's Phædo a remark of Simmias the Pythagorean, in which he argues that our soul is a kind of temperament and attunement of the warm and the cold, the moist and the dry, when they are mingled with one another well and in due proportion. Dr. Moon further quotes from "Greek Philosophy" by J. Burnet, who says that "Health means just being in tune, and disease arises from undue tension and relaxation of the strings; even now we speak of tonics in medicine as well as in music." We might remark in this connexion that in the Greek musical scale the tonic was not as we call it, the beginning and the final of the scale, but the middle note of it, and they called it *μέση*. The intense Greek feeling for the *mean* in everything may have been the reason why they placed their tonic in the middle.

JOURNALS.

BRITISH JOURNAL OF OPHTHALMOLOGY. September, 1924.—M. L. Hepburn: Classification of Diseases of the Choroid. The writer points out the classification of inflammatory diseases of the choroid alone under 26 different headings, as is done in the American "Encyclopædia of Ophthalmology," is totally unjustifiable. Mr. Hepburn's own classification is under five heads: (1) Inflammatory, (2) vascular, (3) degenerative, (4) congenital, and (5) new growths. The paper is all too short—we could do with more examples, and especially with illustrations of each class. Some controversial matter is included—viz., the inclusion of retinitis pigmentosa as a choroidal disease of vascular origin and the objection to treating macular affections as a class by themselves.—W. G. Laws describes a rare form of retino-choroiditis, possibly associated with pituitary dysfunction. Four cases are cited in which this association occurred. They were characterised by an acute onset with much inflammatory change in the optic nerve head and retina, widespread but always superficial and therefore possibly secondary lesions of the choroid, a self-limited course, and recovery with relatively good vision.—C. L. Preziosi discusses the electro-cautery in the treatment of glaucoma. This paper advocates the use of the electro-cautery in lieu of the trephine in performing a sclerectomy for glaucoma. The chief advantages claimed are: (1) simplicity of technique; (2) impossibility of injuring deep structures; and (3) the slowness with which the anterior chamber is emptied, reducing the risk of hæmorrhage. Iridectomy is not performed, which the writer claims is an advantage, but which may be the opposite.—E. R. Chambers, of Bristol, gives the notes of a case of paralysis of divergence in encephalitis lethargica. In connexion with the recent epidemic he has seen six similar cases within a few weeks. There has been a difference of opinion as to the existence of this condition. Sir George Berry, we note, holds that all these cases are really instances of spasm of convergence and that the so-called centre for divergence in the brain does not exist (cf. Trans. Ophth. Soc., 1901, p. 268).

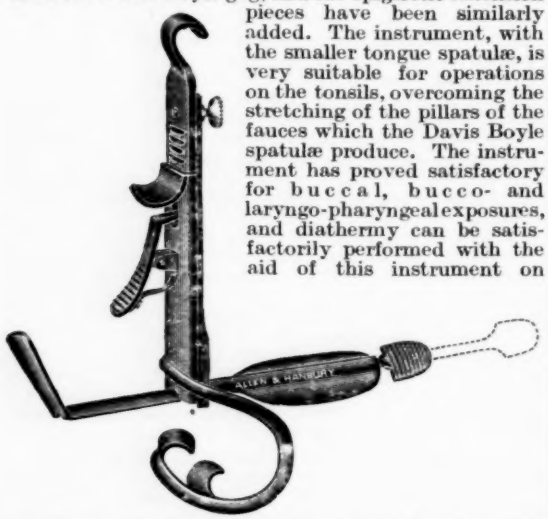
JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.—The first paper in the Journal for August was delivered by Lieut.-Colonel J. A. Anderson before the War Section of the Royal Society of Medicine in April. He explains the new motive of the sanitary specialist in the army, concerned rather with health and its promotion than with disease and its prevention. He considers that there was too much thought in old days of infectious diseases and their prevention to the exclusion of all else: but was it not the work of the pioneers in this field that nearly extinguished typhoid and undulant fevers, and, by reducing illness, left officers with fewer cases to treat, and thus has given them time now to spend on diminishing the lesser ailments of the men?—The first part of Captain J. S. K. Boyd's Parkes' Memorial Prize Essay on the Prophylaxis of Malaria appears in this number. It promises to be a clear and well-balanced account of the problem.—Major C. M. Finny reports the case of a soldier in the Gordon Highlanders, who, running in an inter-regimental cross-country race, twisted his left foot inwards three miles from home, and, as

he stumbled, twisted the other ankle. However, he picked himself up and continued to run, finishing twelfth out of a large field. He complained next morning, and "the X ray showed a transverse fracture of both fibulæ two inches from their lower extremities with slight comminution." Treatment consisted in rest and splints for a week, with daily massage, then active movements, and walking was allowed 12 days after the accident.—Colonel J. A. Hartigan tells of a trip he made from Jamaica to Panama to see the wonderful canal. In the days before Gorgas, between 1882 and 1889, he tells us there were 5000 deaths in the Ancon Hospital, 1200 from yellow fever. A devoted official, an amateur gardener, to protect her garden from ants, arranged a shallow wet gutter all round it. In this "the yellow fever mosquito bred, and so the unfortunate patients became infected." The Governor of the Canal Zone is a regular officer of the U.S. Engineers, and the chief health officer, similarly, always comes from the U.S. Army Medical Corps. The other officials are mainly civilians. All water supplied to ships is filtered and "disinfected" (probably chlorinated). What luxury for those who live in ships! The admission-rate for malaria among employees during 1922 was 17 per 1000, but in 1905 it was 514. Great attention to detail marks all the sanitary work in the Zone.

New Inventions.

A MODIFICATION OF DAVIS BOYLE GAG.

THE points in connexion with this instrument are: the ordinary straight tongue spatulæ have been made to fit the Davis Boyle gag, and the epiglottic extension pieces have been similarly added. The instrument, with the smaller tongue spatulæ, is very suitable for operations on the tonsils, overcoming the stretching of the pillars of the fauces which the Davis Boyle spatulæ produce. The instrument has proved satisfactory for buccal, bucco- and laryngo-pharyngeal exposures, and diathermy can be satisfactorily performed with the aid of this instrument on



growths in any of the above-mentioned regions. By firm traction, in an arc, on the handle piece and with the assistance of the epiglottic extension piece, a good view of the larynx can be obtained. The instrument is intended to replace in a large measure the cumbersome suspension apparatus, and will be found to meet the case in most of the instances where the latter is usually employed. With this instrument, as with the suspension apparatus, one cannot expect successfully to cope with those cases who have short, thick necks. The instrument is considerably cheaper and of smaller bulk, and is satisfactory for most cases. A point worth mentioning is that the surfaces of the parts are dull black, which fact is of great assistance in that reflections are practically abolished.

Messrs. Allen and Hanburys, 48, Wigmore-street, London, W., are the makers.

Brisbane. R. GRAHAM BROWN, M.R.C.S. Eng.

Public Health Services.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

THE following table gives some of the statistics of six health resorts. The low birth-rates and high death-rates from all causes and cancer are striking, and accounted for by the large proportion of retired people and invalids who seek out a pleasant climate in which to end their days, and, as a corollary, by the larger proportion of females engaged in domestic service and the smaller proportion of children.

Name of town.	Estimated (R.G.) population.	Birth-rate.	Death-rates per 1000 of the population.				Death-rates per 1000 births.		
			All causes.	Tuberculosis.	Cancer.	Resp. diseases with influenza.	Neonatal mortality.	Infant mortality.	Maternal mort. from childbirth.
Bournemouth	82,200	13·0	13·6	1·1	1·7	1·6	26	60	2·8
Hove	44,340	11·0	14·0	1·1	2·4	1·9	22	51	4·1
Scarborough..	37,970	17·1	13·8	1·0	2·0	2·3	36	68	3·0
Torquay ..	34,100	14·3	15·1	1·2	1·9	2·2	29	49	2·0
Leamington ..	28,790	16·2	13·5	0·9	1·6	2·1	34	57	4·3
Lytham St. Annes	20,910	11·5	12·4	0·5	2·1	1·5	17	46	0·0

Bournemouth.

Dr. A. D. Edwards gives his own estimate of the population as 95,600, or 13,400 in excess of that of the Registrar-General. The report includes some interesting particulars with regard to the corporation housing scheme. This scheme at present includes 164 houses, all of which contain at least three bedrooms as well as a parlour and bathroom. The rents (inclusive except for the water-rate) are as follows:—

Eighty-eight B type in pairs, 12*s.* 6*d.* per week.
Six four-bedroomed houses in pairs, 14*s.* per week.
Sixty B type in blocks of four, 12*s.* 6*d.* per week.
Four single four-bedroomed houses, 15*s.* 6*d.* per week.
Three single B type, 14*s.* per week.

Evidently the four-bedroomed houses were found to be too big, as four out of ten have been adapted so as to accommodate two families, the tenant of each half being responsible to the corporation for half of the rental. On receipt of a written application the Housing Committee may grant permission to sublet to another family provided that the subtenancy includes a sitting-room, a bedroom with a fireplace, and the joint use of scullery, bathroom, and w.c. The subtenant's rental must not exceed half the rental and water-rate, and is paid direct to the superior tenant. At the end of December, 1923, 51 (or nearly one-third) of the 164 houses had subtenants. At the same date 75 of the tenants had received permission to have poultry runs. The number of poultry kept must not at any time exceed eight, and the height of the poultry shed must not exceed 5 feet. The permission to erect cycle sheds is granted subject to conditions imposed by the Buildings Committee. At the present time there are 21 such sheds.

Hove.

Dr. Augustine Griffith points out that the unnotified cases of pulmonary tuberculosis are usually visitors who have recently come to the town in an advanced state of the disease. In order to secure disinfection of lodgings occupied by consumptives a circular letter was sent to all medical practitioners asking them to notify the medical officer of health of changes of address of tuberculous patients. Dr. Griffith thinks risk and annoyance would also be avoided if house agents inserted a clause in their agreements to secure

the disinfection of a house after occupation by anyone suffering from consumption. Dr. Griffith draws attention to the great change in the age and sex constitution of Hove since the beginning of this century. In 1901 the death-rate of Hove needed no correction in order to compare it with England and Wales, whereas now, in order to make a proper comparison, the death-rate requires to be multiplied by the factor 0·761. Between 1911 and 1921 the population under 5 years fell by 9 per cent., that between 5 and 35 increased by less than 10 per cent., while the population over 65 years of age increased 44 per cent. When the correcting factor is used the death-rate of Hove in 1923 is reduced from 13·96 to 10·62.

Scarborough.

Dr. S. F. Linton, in commenting on the high death-rate from cancer, draws attention to the unusually large proportion of female and aged residents. Scarborough has not yet got rid of its privy middens. Of a total of 10,099 houses, 1251 are supplied by privies, in addition to those which have privies as well as w.c.'s. The presence, particularly in the poorer parts of the town, of this large number of privies is a really great danger to the health of the people, says Dr. Linton, and any effort would be worth while to secure their abolition during the next three years. In 1919 an estimate was put forward that 350 houses were needed immediately, in addition to 632 houses for the accommodation of persons displaced by the clearance of unhealthy areas. So far only 95 houses have been provided. Requests are constantly made for permission to occupy houses which have been condemned and closed, and Dr. Linton states that there can be no question as to the harmful effects upon the public health caused by the housing conditions which prevail in the older parts of the town. The total hours of sunshine in Scarborough during 1923 were 1411·1, which is to be compared with an average of 1463·3 for the last 35 years.

Torquay.

Dr. Thomas Dunlop gives a glowing account of the corporation medical, electrical, and Turkish baths, which have been recently reconstructed. The water-supply of Torquay in times of continued drought has given some anxiety in the past. This difficulty is now to be overcome by the laying of a duplicate 14-inch main from Newton Abbot to Great Hill, where a service reservoir will be constructed to contain 1½ million gallons. The new reservoir will not only supplement the supply given by the town service reservoirs but will also supply water to houses at the highest levels. The water is a soft upland surface water which is subjected to mechanical filtration to remove peaty matter, and contains naturally enough lime and magnesia to prevent any plumbo-solvent action. The Torquay Corporation obtained last year a local Act which gives them many useful powers, including provisions for the protection of the food-supply. Persons dealing in shell-fish are required to furnish the source of their supply. The inspectors of the corporation are authorised to inspect carcasses intended for sale in the borough in slaughter-houses within a radius of six miles of the borough. This provision should be very useful when a public abattoir is erected as recommended by Dr. Dunlop and as provided for in the new Act. An effort was made to obtain a clause to enable the corporation to deal speedily with housing defects by their inclusion as nuisances within the meaning of Section 91 of the Public Health Act of 1875, but, to Dr. Dunlop's regret, this clause had to be dropped owing to the opposition of the Ministry of Health.

Dr. Dunlop records his opinion that the sanitary authority which administers the maternity and child welfare scheme should also be the supervising authority for the purposes of the Midwives Acts. He also points out that some of the "bona fide" midwives have ceased to be on the midwives' roll, and now act as so-called maternity nurses, but really as midwives without being subject to any supervision, and that they are encouraged to do so by various medical men. Only 11 expectant mothers attended the centre for antenatal advice, the number of births being 503.

The number of fish and chip shops is growing, and there were six new premises licensed during the year. All the newly established businesses have up-to-date apparatus, but, in spite of that, Dr. Dunlop thinks that in future applicants for licences should produce evidence that the occupiers or owners in the neighbourhood are favourable to the establishment of the new business. The 48 new municipal houses on the West Hill estate, sanctioned by the Ministry, have been completed and occupied. In order to encourage private enterprise the council have sold all the available building sites on the West Hill estate at an average of £50 per site. This scheme is only likely to benefit those who can build houses for themselves, and Dr. Dunlop thinks there is a "very arid prospect" for those who are only able to rent. One builder agreed to build 36 houses for renting, but owing to labour difficulties he has now decided to build only 12. The 76 houses completed during 1923 were mostly detached villas and bungalows, and their erection has had no appreciable effect on overcrowding or in enabling the corporation to close unfit houses. The corporation are endeavouring to deal with the Pimlico insanitary area, but have as a preliminary to erect 50 houses for the accommodation of the dishoused occupiers of the area. Notwithstanding the many difficulties much has been done in the way of housing repairs.

Leamington Spa.

Dr. W. L. Goldie gives an account of a small epidemic of paratyphoid fever. The usual sources of possible infection were investigated with negative results. Towards the end of August suspicion was directed towards a confectionery business. Over 80 per cent. of the cases notified had had food from this establishment. The employer gave every assistance, and ultimately an employee was found whose blood gave a positive reaction to the *Bacillus paratyphosus* B, the particular organism found in all the cases. This employee was the packer at the central establishment and the only person who handled the food that was sent to the different shops under the same management. She ceased work on Sept. 5th, and no further cases were reported after Oct. 6th, a time which would cover the incubation period of the disease and the period of the illness at which a definite diagnosis could be made from the blood of a patient. The evidence that this girl was the source of the epidemic was not absolutely conclusive, says Dr. Goldie, but it was very strongly suggestive. During the year no further houses were built by the council and only 14 by private enterprise. A certain number of houses were converted into flats, some of which are suitable for workmen's dwellings. The Housing Commissioner's estimate of the shortage of dwellings was considerably less than that of the local authority, but Dr. Goldie thinks that the census returns confirm the estimate of the local authority. The hours of bright sunshine during 1923 were 1268·2.

Lytham St. Annes.

Dr. John P. Litt, acting medical officer, submits the report owing to the resignation of Dr. G. C. Walker in March, 1924. During the year the Ministry of Health conducted an inquiry into the state of the mussel beds in the Ribble estuary. As these beds are all liable to sewage pollution, the Minister decided to make regulations prohibiting the sale of mussels from the estuary unless they could be effectively cleansed. As no place could be found in the estuary where the water was sufficiently clean to admit of cleansing the shell-fish by means of the ordinary methods of re-laying, the beds were closed in October, 1923. The veterinary inspector, Mr. J. R. Rigby, reports that the cattle in the borough dairy farms, numbering about 600, were examined quarterly. Mr. Rigby found among them three cases of tuberculosis of the udder and eight cases of tuberculosis of the lungs. All the affected animals were removed from the dairy herds. Six of the milk samples taken were seriously deficient in fat

Investigation of the matter disclosed very unequal inter-milking intervals—namely, eight hours between the morning and afternoon milkings and 16 hours between afternoon and morning. The vendors in every case were cautioned, but we are not told that they undertook to change their milking times. The sanitary inspector, Mr. H. Yates, hopes that the council will reconsider the limit of permissible black smoke adopted by them. Each chimney in the borough may now emit black smoke for two and a half consecutive minutes so long as there is an interval of 15 minutes between each emission.

INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDED SEPT. 27TH, 1924.

Notifications.—The following cases of infectious disease were notified during the week, namely:—Small-pox, 44; scarlet fever, 1805; diphtheria, 865; enteric fever, 91; pneumonia, 495; puerperal fever, 32; cerebro-spinal fever, 6; acute poliomyelitis, 31; acute polio-encephalitis, 3; encephalitis lethargica, 53; continued fever, 1; dysentery, 2; ophthalmia neonatorum, 124. There were no cases of cholera, plague, or typhus fever notified during the week.

Deaths.—In the aggregate of great towns, including London, there were 4 deaths from enteric fever, none from small-pox, 8 from scarlet fever, 28 from diphtheria, 6 from measles, 21 from influenza. In London itself the diphtheria deaths numbered 11, and the deaths from infantile diarrhœa 22.

The Conduct of Medical Practice.

A Series of Articles by Experts dealing with the Difficulties Encountered in Professional Life and How to Meet Them.

XX.—INCOME-TAX ASSESSMENTS: HOW TO VERIFY THEIR CORRECTNESS.

BY W. R. FAIRBROTHER, F.S.S.,
ACCOUNTANT AND INCOME-TAX SPECIALIST.

NOTICES of assessment for income-tax in regard to the year ending April 5th, 1925, are being daily issued by the Revenue authorities. As any appeal against the amount of the assessment must be given in writing within 21 days of the receipt of the notice, it is obviously essential for the contents to be carefully checked at once. Attention should be directed not only to the amount of the assessment but also to the deductions, allowances, and reliefs claimable by the taxpayer. These were set out categorically in a previous article.[1] As the average medical man is subject to an assessment the nature of which is somewhat complex, it is very necessary that vigilance should be exercised.

Verification of Items.

This will best be achieved by following the order in which they are stated in the notice of assessment.

1. The amount of assessment as shown should accord with the return of profits previously made. If there is an increase in the notice an explanation should be asked for so that the discrepancy may be reconciled. It would be well to remember that even if the amount agrees with the return there are a number of somewhat unusual expenses which should have been allowed. These expenses should have included such well-known items as rent, rates, and water, repairs, assurance, drugs, instruments, bottles, lighting, heating, postages, stationery, telephone, periodicals, text-books, wages, and National Health Insurance. Included also in the expenses should have been the cost of car-running (or hire) expenses, whilst the amount allowable in respect of the cost of renewal of any car should have been deducted. Another item which is liable to be overlooked is the cost of board of locum tenens, whose salary is not so liable to be missed as an expense. The cost (or partial cost) of boarding servants, occasional servants, odd man or boy is also presumed to have been allowed. Still another point worth watching is that any income from public appointments is included in the general assessment as it is permissible to do so, and the resulting advantage is the receipt of one notice instead of a number varying with the sources of professional income.

2. The earned income allowance of one-tenth of the amount of the assessment should be shown. The limit to the amount of this allowance is £200.

3. The personal allowance of £135 is given in the case of a single person, whilst £225 is allowed to a married man. An interesting point to watch in this connexion is the allowance of the additional £90 even if married on the last day of the income-tax year. A still more interesting point, however, is to remember that a claim for refund of income-tax on £90 may be made if married before April 5th, 1924, and tax has already been paid for that year when single allowance only had been given.

4. The housekeeper allowance of £45 has been increased to £60 as from April 6th, 1924. This allowance is given in respect of persons taking charge of a widower's child, or acting as housekeeper merely, or in respect of a widowed mother having charge of a brother or sister in respect of whom the child allowance is given. Formerly a widower could not claim in respect of a housekeeper unless he had a child being looked after by such housekeeper, but this condition has been repealed.

5. The allowance in respect of children amounts to £36 for the first child and £27 for each other. The child must have been living on April 6th, 1924, to enable the allowance to be given in the current year, but it must not be assumed that if the child is born later the allowance is lost, for what is foregone in the first year is gained in the last year of claim—i.e., there are 16 annual allowances, and no more, given in respect of each child unless, of course, the proviso as to attending school beyond the age of 16 comes into play.

6. A deduction of £25 is claimable in respect of a dependent relative maintained by a taxpayer and who is incapacitated by old age or infirmity from maintaining himself or herself or is his or his wife's mother, whether incapacitated or not. A similar amount is deductable in respect of a daughter resident with the taxpayer and upon whose services he is compelled to depend by reason of old age or infirmity. No allowance is given where the dependent relative's total income is over £50 per annum.

7. After the deductions and allowances have been set against the assessment the net amount becomes taxable, and the first £225 of such taxable income is assessed at 2*s.* 3*d.* in the £, the remainder being at 4*s.* 6*d.*

8. When the total tax has been calculated there should be deducted the allowance in respect of life assurance, which varies from 2*s.* 3*d.* to 4*s.* 6*d.* in the £.

9. If the first £225 of taxable income includes items already taxed at the full rate at the source, an allowance is made to bring the total deduction to the equivalent of £225 at 2*s.* 3*d.*

Professional Adjustments.

When all the foregoing checks have been instituted it still remains necessary to watch the possibility of an adjustment in the assessment which is provided for under various provisions in the case of professions. Consideration may be claimed in such circumstances as the following:—

1. If a change in ownership takes place before April 5th, 1925, the current year's assessment is apportionable between the two practitioners on a time basis.

2. Where practice is discontinued a claim should be made to have the assessment reduced to the actual profit of the income-tax year.

3. If practice was commenced within the last four years, a claim may be made later for reduction of the assessment to the actual profit of the year.

4. If the practice was taken over a claim may be made for adjustment to the actual profit (instead of the usual average) if such profit is less through some specific cause arising since or by reason of the taking over.

[1] THE LANCET, Jan. 12th, 1924, p. 81.

THE LANCET.

LONDON: SATURDAY, OCTOBER 11, 1924.

THE FUTURE OF HEALTH INSURANCE.

AT a time when the Royal Commission is about to resume its labours it seems appropriate to review the present position of national health insurance, to see in what directions new ideas are pointing the way for future developments, and to discover the principles which should underlie a truly national scheme of health insurance. Sir GEORGE NEWMAN'S running commentary on the working of the Act, which we reprint in large part on p. 768, affords an admirable basis for discussion. That the present scheme has justified its existence was made evident in the whole-day conference[1] at the Bradford meeting of the British Medical Association, when representatives of every section of the community affected by the Insurance Acts expressed concurrence with its general principles. Among the advantages of the present scheme may be enumerated the following:—

1. It has helped to establish a health consciousness in the State.
2. It has revealed a volume of sickness among the workers not hitherto realised.
3. It has shown the effect of sickness on industry and the bearing of environment and conditions of industry on sickness incidence.
4. It has demonstiated the scope for coöperation between insurance practitioners and the medical officer of health.
5. It has pointed to the need for adequate hospital accommodation and for specialist and consultant services.
6. It has proved the possibilities of a thoroughly efficient medical service in providing an opportunity for the insured person to consult a general practitioner at the earliest stages of illness and for the practitioner to study disease in its beginnings.
7. It has brought the practitioner face to face with the problem of industrial efficiency.

Nevertheless, with all the progress recorded there is still no doubt that, as Sir WILLIAM GLYN-JONES remarked at Bradford, the scheme has not redeemed the many promises made for it by its political parents at its conception. How the defects can be remedied and what immediate developments can be undertaken will doubtless be the chief concern of the Royal Commission. Many suggestions are being made, some of which affect the medical service, others the approved societies, the insurance committees, and the administrative machinery in general. The medical service could be strengthened by improving the conditions of work and the remuneration of the practitioners. This would increase the number of the doctors undertaking service, and, to quote Sir WILLIAM GLYN-JONES again, make those practitioners as anxious to secure and retain insurance patients as they now are to secure and retain private patients. If the insured person could be trained to discriminate and to recognise efficient treatment, then the free choice of doctor would have its proper effect in the law of supply and demand. A natural corollary would be still further reduction of the "overcrowded" lists and a solution of the difficulties of the newly-qualified in getting an introduction to practice while they are young, vigorous, and efficient. The need for organisation in the medical profession is still insistent and there is scope for real scientific team work. Institutions in the nature of clinics and laboratories attached to special health centres should be established without delay. In his address last week to the students of Westminster Hospital, Mr. H. J. WARING, Dean of the Faculty of Medicine of London University, reminded us that modern medicine demands coöperative and institutional investigation and treatment, from which, he said, a pretty radical alteration in the National Insurance Acts must follow. Perhaps some one will introduce the four-year old report of Lord DAWSON'S Committee to the notice of the Royal Commission. The Consultative Council over which Lord DAWSON presided was so impressed with the urgency which attaches to the orderly building of a constructive health policy, and with the close relationship which exists between medical services and the problems connected with Poor-law and local government, that they set forth in an interim report a model scheme of health centres. The general availability of medical services could, in their opinion, only be effected by new and extended organisation. This report is every whit as topical now as when it was issued.

The development of medical benefit will become more pressing than ever if and when the dependents of insured persons are included in the scheme. The conditions of service must be materially altered if the insurance practitioner is to perform the functions set out by Sir GEORGE NEWMAN. How is the practitioner to deal with the "beginnings of disease" unless he has time to examine all his patients thoroughly? He would welcome any scheme of coöperation which rendered specialist and consultative assistance possible to his poorest patients. At present he is too much an isolated unit, and as such his usefulness and service are much curtailed. In the admitted difficulties of "certification," that nightmare of panel practice, a great deal more help might be given. The practitioner needs to learn the criteria on which the question of incapacity is decided; though memoranda are issued from time to time by the Ministry of Health, it is really in concrete cases that the principles need to be demonstrated. The position is complicated by the fact that at present different standards are employed by practitioners, referees, and approved societies. The nature of his relationship to the approved societies needs to be brought more clearly to the knowledge of practitioners. There is, in fact, room for much greater coöperation, which can hardly come to pass until more sympathetic relations are set up between them. The machinery of approved society administration needs overhauling. It is doubtful whether these societies do now serve the highest interests of the State; their aims are too narrow and their views too cramped for the purposes of a great health insurance scheme. But there is welcome evidence in some quarters that a wider view is being taken, and it may still be possible to enlist the services and coöperation of the societies in the great task of preventive medicine. Mr. ALBAN GORDON, whose book entitled "Social Insurance" is reviewed on p. 753, himself the secretary of an insurance society, criticises severely the administration by approved societies and such anomalies as the inadequacy of the benefits, the overlapping of the thousands of separate societies, the neglect of preventive measures in disease, and the lack of personal touch in administration. He suggests that medical benefit should

[1] THE LANCET, Sept. 13th, p. 572.

be taken out of the Act altogether, inasmuch as the prevention of illness and its prompt treatment when recognised do not form a logical section of any organisation taking charge of sickness and disablement benefits; these are self-contained affairs, which rest on an actuarial basis and can be restricted to persons paying contributions. None of this holds good for what is implied by medical benefit. To take medical benefit out of the Act, a suggestion brought forward and endorsed at Bradford, would involve the abolition of insurance committees. Many people, on the other hand, are satisfied that in the larger towns and counties these committees have proved their efficiency in administering army and navy insurance funds, and the affairs of deposit contributors. This is another problem for exploration by the Royal Commission. Lastly, there is the insured person who must be educated to play his part in the scheme. The doctor is still his best friend, but some steps appear to be necessary to secure a useful discipline to enable the doctor to render his full service, both to the individual and to the State. At present the free choice of doctor and the unlimited right to transfer enjoyed by the insured person are working to the vicious end of making the doctor his slave instead of his adviser and guide. The responsibility of the practitioner to his patient is great, but his duty to the State is still greater.

THE GROWTH OF THE JAWS.

SIR ARTHUR KEITH told the students of the Royal Dental Hospital last week that Nature can be trusted to give mankind the dentition it deserves. Our knowledge of the development and growth of the jaws is not very complete, and what is known is not applied. In the earlier part of the year the Dental Board arranged for a course of lectures on this subject to be delivered in various centres. These have now been published in book form, and comprise contributions from Profs. E. FAWCETT and J. C. BRASH, Mr. G. NORTHCROFT, and Sir ARTHUR KEITH. The volume forms a monograph on the growth of the jaws, both normal and abnormal, of value and interest not only to the dentist, but to the anatomist and anthropologist. It is no disparagement to the masterly review of the development of the jaws by Prof. FAWCETT, or to the suggestive chapter by Mr. NORTHCROFT, to say that the chief interest of the reader will centre on the two lectures by Prof. BRASH and the fascinating speculations of Sir ARTHUR KEITH. The chapters on the growth of the jaws and the genesis of deformities of the jaws, by Prof. BRASH, embody a large amount of original work which will make it necessary to revise some of our previous conceptions of the mechanism of deformities of the jaws. Modern knowledge of the principles underlying mandibular growth commenced with the classical work of JOHN HUNTER, who demonstrated very clearly the chief sites of growth and was one of the first to employ the method of superimposition of jaws at different ages. At a much later date Sir JOHN TOMES and G. M. HUMPHRY, working independently, showed for all time the way in which the mandible increases in size from infancy to adult life. It is a striking tribute to their accurate observations that the general principles enunciated by them still hold good, even although some of their conclusions need to be modified. BRASH has used on pigs the "madder" method, in which the bones are stained red. His work confirms the views of HUNTER and TOMES that growth of the mandible is a combination of surface addition of bone with surface absorption. His specimens show to an extent not always realised how great is the amount of absorption of bone which goes on concurrently with the addition of bone. Prof. BRASH challenges the long-accepted view that the alveolar arch of the deciduous teeth is the same as that of the successional permanent teeth. By means of measurements J. TOMES sought to show that the arch of the ten front teeth did not alter and that the greater width of the adult jaw as compared with that of a child was accounted for by additions to the outer surface of the bone. There can be little doubt that in this respect TOMES was wrong and that the alveolar arch of the permanent teeth is definitely larger than the deciduous arch. Both J. F. COLYER and G. FRANKE, by means of measurements of models of the jaws of the same individual at different ages, had come to this conclusion, which is now confirmed by BRASH.

The problem of the growth of the maxilla is complicated both by its connexions with other bones and by the part it plays in the growth of the nasal cavities. Up to quite recently our knowledge of the way in which the maxilla grows was very slight, and it was not until Sir ARTHUR KEITH and G. CAMPION published their remarkable paper on the Mechanism of Growth of the Face,[1] in 1921, that the gaps in our knowledge began to be filled. This paper gave a new orientation to our ideas on the growth of the face, and has already become classic, even although its full significance has not yet been realised. Prof. BRASH acknowledges in handsome terms his indebtedness to their work, which is, to quote his words, "a first essay in a difficult and practically uninvestigated field of knowledge." KEITH and CAMPION chiefly studied the factors involved in the normal growth of the face; BRASH attempts to carry the work a stage further by applying the principles of normal growth to account for the genesis of deformities of the jaws. KEITH and CAMPION used extensively the method of superimposition of drawings to determine sites of growth increment. BRASH, while admitting the general value of this method, points out that it has its fallacies. His own conclusions, drawn both from madder specimens and from measurements of human jaws at different ages, do not agree in all respects with those of KEITH and CAMPION, yet the general agreement is striking and affords valuable confirmation of their work. In general, it may be said that the growth of the maxilla is a complicated combination of surface addition with sutural growth. The relative importance of these two factors has not been fully worked out, but it is possible to estimate with some degree of accuracy the amount of growth which occurs at the different sites of growth activity. An interesting section of BRASH's work is that which deals with growth of the palate. The term "growth in height of the palate" is a misleading one, for actually the level of the palate descends. This is brought about by addition of bone to the under surface of the palate, accompanied by absorption of bone on the upper or nasal surface. The greater depth of the palate of the adult, as compared to the shallow palate of the infant, according to BRASH, is due to downward growth of the alveolar process. Both palate and alveolar bone are themselves growing downwards, but the alveolar growth outstrips that of the palate and it is this factor which determines the height of the palate. This conception has an important bearing on the way in which the high palate, which so often accompanies the adenoid facies, is produced. It has often been maintained that in this type of deformity the palate is forced upwards by external pressure due to mouth-breathing which is the more readily facilitated by the lack of growth of the nose owing to nasal

[1] Dental Record, 1922.

obstruction. BRASH vigorously combats this view by a wealth of convincing argument. The high palate, which is the commonest of dental deformities, is due either to an excessive downgrowth of the alveolar process or to decreased growth of the vault of the palate, or to a combination of both. The important point which BRASH brings out is that the increased height is present at an early age, certainly before the age of 8 years. The narrow dental arch which is always present in the high palate is to be accounted for by the fact that in normal jaws the alveolar bone grows both downwards and outwards, whereas in the abnormal jaw the growth is chiefly vertical or may even be inwards. Comparative figures show that the actual amount of growth change in both normal and abnormal jaws after the age of 8 is about equal. BRASH considers that the early age at which deformities of the jaws become established puts out of court any explanation of their ætiology based on mechanical grounds. He suggests that their causation must be due either to hereditary factors or to nutritional factors. These latter may act directly or by influencing the glands concerned with the regulation of growth.

To the orthodontist concerned with the prevention and treatment of irregularities of the teeth and jaws this book, together with the earlier paper of KEITH and CAMPION, should prove indispensable. The volume is a notable addition to our knowledge of a particularly difficult subject, and should do much to place that important branch of dentistry which deals with the treatment of dental deformities on a more rational basis.

THE MAUDSLEY HOSPITAL.

THE progress of the energetic early treatment of insanity, which is now being carried on at the Maudsley Hospital, is being watched with interest, and the first annual report is therefore of great importance. It is, perhaps, hardly necessary to explain that the hospital was built by the London County Council out of funds left by the late Dr. HENRY MAUDSLEY, the first among psychologists to lay stress on the fact that mental disorder may often be an expression of physical illness, and therefore amenable to appropriate treatment. A provision in the London County Council Act, 1915, enables the patients to be admitted on a voluntary basis; no person under certificates is received, and no patient is certified within the walls of the institution should removal to another mental hospital eventually prove advisable. Persons "having a legal settlement in the County of London" are admitted for a payment in proportion to their means; the full maintenance-rate (£5 per week) is charged to those coming from elsewhere. Further requirements are an undertaking by some responsible person as to the provision of other arrangements for care—if necessary in less than 24 hours from receipt of notice, and the approval of the medical superintendent, or his deputy, as to the medical suitability of the proposed patient, this generally involving a personal interview. The former condition has been waived in a few cases, and indeed it is evident that in every way the staff at the hospital and the corresponding department in the County Hall have made every effort to avoid unnecessary formalities and delays. In regard to "medical suitability," it is hardly surprising that difficulties should have arisen: relatives, and practitioners acting under pressure from them, naturally minimise such features of a case as are likely to render it an unsuitable one for admission, and the condition of a personal interview with the patient is regarded as necessary unless the hospital is to become a "clearing-house to the mental hospitals of the county."

The first essential for comprehending the work which is being done is to note the composition and numbers of the staff. In a hospital of about 150 beds, with private rooms for female patients and with an out-patient clinic, there have been no less than 18 medical officers working during the year. There are five permanent resident officers; four medical officers at a time from other mental hospitals under the Council are being seconded, with the pay of their rank, for periods of three months to the Maudsley for either clinical or pathological work; and in addition "an indefinite number of medical men or women (preferably those with previous experience of nervous and mental disorders) may be appointed as voluntary clinical assistants on either part-time or whole-time basis." Eleven such appointments have been made, there being an average of six assistants working at any given time, and even with this assistance we learn that the work of the regular medical officers remains extremely heavy. This indicates what is involved when psychotherapy is undertaken on a large scale, and when neuroses are dealt with seriously. The total number of cases treated during the year was 1012, of whom 894 attended the out-patient department. The number of admissions was 452, and of those discharged after a full course of treatment (i.e., not prematurely for financial or other reasons) 35 per cent. were recovered, 35 per cent. were improved, and 30 per cent. were not improved. Those interested in such projects as are typified in the Maudsley Hospital will look with keen attention to the types of case admitted, for herein lie at once the greatest difficulty of such work, and the clue to any success it may achieve. No very definite indications are given by Dr. EDWARD MAPOTHER, the medical superintendent, as to the criteria of suitability which have been adopted; the question is obviously not a simple one, and every rule must have its exceptions. We understand, however, that the omission was due to the exigencies of space in the report, and that Dr. MAPOTHER proposes to discuss in a supplementary article the advantages and limitations of treatment on a voluntary basis and the types of suitable cases which actually present themselves. General paralytics, it may be gathered from the report, are admitted for the purpose of applying recently suggested methods of treatment; the appearance of dementia præcox in the statistical tables indicates, we are told, the difficulty of prognosis in the initial stages, the diagnosis having been reluctantly reached after observation in cases which at first seemed of another and more hopeful type. The nature of the year's admissions is broadly as follows: alcoholism, 12 cases; dementia præcox, 34; paranoid types, 32; manic-depressive types, 13; depression, 92; neurasthenia, 23; hysteria, 21; anxiety states, 57; and obsessional states, 21 cases. Various tables afford exact information as to the duration of the attack, accompanying physical conditions, and the duration and result of treatment; another table correlates diagnosis and method of disposal.

Of the therapeutic resources of the hospital it is enough to say that physical treatment, as exemplified by baths and massage, is employed to a great extent, while the close connexion between the Maudsley and King's College Hospital provides for much special work; the dietary is particularly studied from the points of view of individual requirements and attractiveness; great stress is laid on open-air treatment, by night as well as by day, and the minimum possible restric-

tions on liberty are imposed. A variety of research has been undertaken. The subjects studied include basal metabolism, blood-sugar variations, including those induced in response to drugs, liver function, the oculo-cardiac reflex, the effect of drugs on the cytology of the blood, the reaction of the vascular system to the ingestion of food, and to postural and temperature changes, variations in the power of oxidising phenols, and the psycho-galvanic reflex. The special treatments employed have included gland therapy (seven single and two compound gland preparations being used, with no very convincing results), injections of insulin in cases where pancreatic function had been disturbed, the employment of arsenical and bismuth compounds, and inoculation with malaria in the treatment of general paralysis, and last, but not least, psychotherapy, including full courses of psycho-analysis. These observations are intended only to indicate the type and method of the work which has begun at the Maudsley Hospital. It is in a unique position, at least as regards England. Its possibilities are still untried, and it is important that every practitioner, particularly in London, should be and remain aware of its existence and purpose.

Annotations.

"Ne quid nimis."

THE SUPPLY OF DRUGS TO ADDICTS.

NEXT month, as we noted last week, an international conference is meeting in Geneva with a view to limiting the production of harmful drugs to the actual medical and scientific needs of the world. Information as to the amount required for legitimate needs is accumulating. The results of an American narcotic survey have just been published; a county in Maryland was chosen for the purpose owing to its remoteness from the sea-coast, its largely rural character, its diversified population, and its easy access from Washington. The records were studied of all the narcotic registrants in the county of Allegany during the period July 1st, 1922, to June 30th, 1923, which involved visits to 69 physicians, 12 dentists, 20 retail and 3 wholesale pharmacists, 1 veterinarian, and 5 hospitals and sanatoriums. The total opium equivalent of opiates used was 69·81 pounds of opium and the total cocaine equivalent was 293·03 pounds of coca leaves. Taking the population of the county as 69,938 from the 1920 census, the per capita consumption works out at 6·98 gr. of opium and 29·32 gr. of coca leaves. On the same basis, to supply the entire United States with its population of 106 millions would require annually 105,697 pounds of opium and 443,988 pounds of coca leaves. The Washington Public Health Department regards these data as representing fairly accurately the medical requirements in opiates at the present time, but not in the case of cocaine, since most of the dentists who then used cocaine have since discontinued its use in favour of the synthetic local anæsthetics.

In this country the difficulty of withholding morphine and heroin from those addicted to their use is pressing very hardly on the medical man. The Minister of Health has now appointed a Committee with the following terms of reference:—

To consider and advise as to the circumstances, if any, in which the supply of morphine and heroin (including preparations containing morphine and heroin) to persons suffering from addiction to those drugs may be regarded as medically advisable, and as to the precautions which it is desirable that medical practitioners administering or prescribing morphine or heroin should adopt for the avoidance of abuse, and to suggest any administrative measures that seem expedient for securing observance of such precautions.

The members of this Committee are: Sir Humphry Rolleston, President of the Royal College of Physicians; Sir William Willcox, Honorary Medical Adviser to the Home Office; Dr. J. W. Bone, representing the British Medical Association; Dr. R. W. Branthwaite, Board of Control; Dr. G. M. Cullen, Scottish Board of Health; Prof. W. E. Dixon, Reader in Pharmacology, Cambridge University; Dr. John Fawcett, Physician, Guy's Hospital; Dr. A. Fulton, Divisional Medical Officer, Ministry of Health; and Dr. J. Smith Whitaker, Senior Medical Officer, Ministry of Health. The chairman of the Committee is Sir Humphry Rolleston, and the joint secretaries are Dr. E. W. Adams and Mr. R. H. Crooke, to whom all communications should be addressed at the Ministry of Health, Whitehall, London, S.W. 1.

DANGEROUS DRUGS IN GENERAL PRACTICE.

THE current issue of the London Panel Committee's *Gazette*, which circulates among practitioners on the panel in the County of London, contains a very clear statement of the obligations of the practitioner arising from the Dangerous Drugs Act, 1920, and the regulations made under it. The drugs affected are morphine, cocaine, ecgonine, and diamorphine with their respective salts, also medicinal opium with its preparations, and are included under the Act when the finished preparation contains more than one-fifth per cent. of morphine and more than one-tenth per cent. of cocaine, ecgonine, or diamorphine (heroin). Prescriptions containing these drugs must be written, dated, and signed by the practitioner; in the case of private prescriptions his address must be given, but this is not obligatory on insurance prescriptions. Prescriptions in all cases should give the name and address of patients. Practitioners may obtain from chemists drugs for personal administration, and orders for these should give the practitioner's name and address in writing. Messengers should be provided with documentary evidence that they are entitled to receive such drugs. Practitioners have to keep records of the purchase and sale of dangerous drugs other than for personal administration or given under direct supervision. Any prescription containing when finished less than a certain percentage of the drug may be dispensed as before the Act. The upper limit in the case of some of the more usual preparations is as follows:—

	Per ounce.	Per drachm.
Chlorodyne, B.P.C.	190 ℥	22 ℥
Cocain. hydrochlor.	0·4 gr.	0·05 gr.
Diamorphin. hydrochlor.	0·4 gr.	0·05 gr.
Liq. morph. acet.	120 ℥	15 ℥
,, ,, hydrochlor.	106 ℥	13 ℥
Morphin. alkaloid (cryst.)	1·0 gr.	0·12 gr.
,, acet.	1·2 gr.	0·15 gr.
,, hydrochlor.	1·15 gr.	0·14 gr.
,, sulph.	1·12 gr.	0·14 gr.
,, tartr.	1·12 gr.	0·14 gr.
Tr. opii	95 ℥	11 ℥
Tr. chlorof. et morph. co.	95 ℥	11 ℥

Certain preparations containing opium or its derivatives are outside the regulations altogether—viz.: Tr. camph. co.; tr. chlorof. et morph. (chlorodyne B.P. '85); tr. opii ammon.; troch. morph.; troch. morph. et ipecac. Other preparations are exempted on the understanding that if any other medicament is mixed with them, and the percentage of dangerous drug exceeds the limit, the product then comes within the regulations. These are: Cereoli iodof. et morph., B.P.C.; empl. opii, B.P., 1898; lin. opii, B.P.; lin. opii ammon., B.P.C.; pasta arsenical., B.P.C.; pil. hydrarg. c. opio, B.P.C.; pil. ipecac. c. scill., B.P.; pil. plumbi c. opio, B.P.; pil. digitalis et opii co., B.P.C. (Heim); pil. hydrarg. c. cret. et opii, B.P.C. (Hutchinson); pulv. cret. aromat. c. opio, B.P.; pulv. ipecac. co., B.P. (Dover's powder); pulv. kino co., B.P.; suppos. plumb. co., B.P.; tab. plumb. c. opio, B.P.C.; ung. gall. c. opio, B.P. (gall and opium ointment); ung. gall. co., B.P.C.

All these points can be found in official circulars, but it is a boon to the practitioner to have them set out thus.

EUGENICS BY LEGISLATION.

THE Ministry of Health has returned a cautious negative to a Parliamentary question concerning possible legislation on eugenic lines. As our Parliamentary correspondent notes, Mr. Black had asked

whether, in view of the financial commitments of the nation in respect of persons who through physical or mental deficiency become a charge upon public funds, a Royal Commission would be appointed to advise upon the restriction of procreation of children by unfit parents. While this country is not yet prepared for advanced eugenic legislation, it is interesting to note what legislatures are doing elsewhere. A recent volume of the Society of Comparative Legislation, containing summaries of the laws passed in different parts of the world during 1922, shows several examples of American enactments on this topic. The State of Nebraska, for instance, forbids the marriages of persons afflicted with venereal disease, and insists that no one adjudged afflicted with hereditary epilepsy or insanity shall marry unless first submitting to a sterilising operation; applications for licences to marry must be accompanied by affidavits of freedom from venereal disease. Montana provides for the sterilising of inmates of what are euphemistically called "custodial institutions," who are insane or feeble-minded or idiots or epileptics. An essential and certainly desirable feature of the Act is the insistence on adequate medical advice; there is a hearing before a board with a right of appeal therefrom to a court of law. These American provisions are, of course, by no means the first of their kind. As long ago as 1895 Connecticut forbade the marriage of epileptic or feeble-minded persons under penalty of a minimum term of three years' imprisonment. Ten years later the Act was attacked in the Supreme Court as being unconstitutional but was upheld, though it was subsequently modified. Wisconsin, Maine, and Delaware are other States which have passed similar legislation. The underlying principle is the same, but the measures differ in that sometimes they actually make marriages void, sometimes they merely punish those who marry. Another American type of eugenic enactment is aimed not so much at preventing the birth of unfit children as at putting an end to sexual assaults by degenerates. Thus California in 1922 empowered the criminal courts to direct an "operation to prevent procreation" to be performed on persons convicted of carnal abuse of girls under ten years of age. Indiana, Iowa, and other States have passed similar Acts in the past, but the courts have sometimes held the laws to be contrary to the constitution; in one case the operation was held not to be a "cruel" punishment, in another it was held "cruel and unusual," and therefore unconstitutional. This supervision of legislation by judges is always a little puzzling to us in this country where legislators are unhampered by a rigid written constitution. We have not, however, hitherto heard much of eugenics at Westminster, unless we are to ascribe to a vague eugenic instinct the reluctance of certain legislators to pass such measures as the Deceased Wife's Sister's Bill.

THE RESULTS OF CONSERVATIVE TREATMENT OF POTT'S DISEASE.

Now that the treatment of Pott's disease is becoming operative, and Albee's operation is extensively employed, it is most desirable that, for the purpose of comparison, information should be available as to the results obtained by more conservative measures. For it is obvious that there is no indication for operative treatment, however good its results, if patients recover as often, as soon, and as permanently under less heroic measures. To provide such material for comparison, Dr. Santeri Leskinen,[1] of Helingsfors, has collected the evidence obtainable in connexion with 241 cases of Pott's disease treated at his hospital on conservative lines in the period 1895–1920. As many as 21 of these patients died in hospital, and of the remaining 220, only 137 could be traced. There were 126 males to 115 females, and 68 per cent. were between the ages 1 and 10. The cervical vertebræ were involved in 16·2 per cent., the thoracic vertebræ in 56·4 per cent., and the lumbar vertebræ in 27·4 per cent. Thus, the thoracic vertebræ were involved in more than half the total number of cases. But when the incidence of the disease in each vertebra was calculated, it was found that it was highest for the lumbar vertebræ, each of which accounted for 13·2 per cent. of all the cases, whereas the corresponding figures for each thoracic and cervical vertebra were 11·3 per cent. and 5·5 per cent. respectively. In addition to the 21 patients dying in hospital, there were 43 who died after discharge. Thus, the mortality among the patients who could be traced was as high as 40·5 per cent. It was much higher for males than for females, the respective figures being 50 per cent. and 32 per cent. Tuberculosis or its sequels was the cause of 57 of the 64 deaths. The survivors who were traced were classified according as they were still ill, fairly well, or cured. The figures for these three classes were, in the order named, 12, 17·1, and 30·4 per cent. respectively. It will thus be seen that with a mortality of 40·5 per cent., and a complete recovery-rate of only 30·4 per cent., there was much room for improvement on the results of conservative treatment. The best results were obtained in disease of the cervical vertebræ, only 26·3 per cent. of the patients having died, whereas 68·5 per cent. had completely recovered. Disease of the thoracic vertebræ responded least satisfactorily, the mortality being 46·3 per cent. and the recovery-rate 21·1 per cent. in this class. When the patients were classified according to their ages, it was found that the mortality was highest in the first two decades, in which it was 41 and 44·8 per cent. respectively. It was lowest in the third decade, in which it was 30·8 per cent. After the age of 40 the mortality became higher again. The average duration of treatment in hospital was eight months for the patients who were cured, six and a half months for the patients who remained fairly well, and seven and a half months for those who remained ill. It is sincerely to be hoped that operative treatment may give better results.

[1] Acta Chir. Scand., 1924, lvii., 193.

A CARDIOVASCULAR SYMPOSIUM.

ATTEMPTS to reconcile the rapid advance of knowledge with the endeavour of the busy medical practitioner to make the best use of the scanty hours he can devote to study are always interesting. Such we believe is the objective of the editors of the symposium now being issued by the *Medical Journal and Record* of New York. The example we have recently received[1] deals with cardiovascular diseases, and we can readily believe that it will be welcome. It contains four articles which, without in any way attempting to provide a complete survey of the modern views on diseases of the heart and blood-vessels, give useful information on four big subjects which should be valuable to every practising physician who reads them. The opening article by Dr. T. Parsons-Smith perhaps errs on the side of complexity; his subject is bradycardia, and whilst recognising the necessity for electro-cardiography in the differential diagnosis of many of the underlying causes of this condition, we feel that he may have laid undue emphasis on the interpretation of electro-cardiograms. The omission of references from his original article diminishes its value to the specialist. The other articles include a valuable dissertation on hypertension by Dr. Ernst P. Boas, and an excellent essay by Dr. S. Neuhof on the use of quinidine in private practice. This author finds that by giving 5 grains on the first day and three 5-grain doses on the second and third days, with careful examination by the family physician, the drug can be safely used in the patient's own home. In all cases with tachycardia, a preliminary course of digitalis was given, and, in all cases, symptoms of idiosyncrasy, such as vomiting, diarrhœa, tachycardia, were carefully watched for. After the third day of quinidine, the

[1] Cardiovascular Symposium. Medical Journal and Record. New York: A. R. Elliott Publishing Company. Sept. 3rd, 1924.

consultant again saw the patient and the nature of further treatment was decided. Dr. Neuhof has experienced the same uncertainty of effect that has been generally recognised; but he reports no untoward results from the treatment of private patients on the lines indicated, and his article is an effective illustration of how the use of a valuable drug may be extended without danger.

RETINITIS PIGMENTOSA.

RETINITIS pigmentosa is one of those diseases the pathology of which is still a subject of keen debate. To recapitulate the main facts which any theory, to be tenable, has to explain: The disease is slowly progressive, intractable to treatment, and is liable to occur in several members of a family. Its most typical ophthalmoscopic appearance is a passage forwards into the anterior layers of the retina of cells belonging to the hexagonal pigment layer which are normally situated at the back of the retina immediately in front of the choroid—this phenomenon first becoming evident in the mid-peripheral region. A constant symptom, even in early cases, is night-blindness; and the visual field nearly always shows a ring scotoma corresponding to the ring of abnormal pigment in the mid-peripheral zone. Two antagonistic theories have been and are still held to account for these phenomena. On the one hand, the atrophy of the outer layers of the retina is supposed to be secondary to changes of a sclerosing character in the choroidal blood-vessels on which their nutrition depends. On the other hand, it is suggested that the degeneration of the retinal elements is primary and the sclerosis of the vessels of the choroid a secondary phenomenon. Treacher Collins put the case for this view five years ago in an important paper which was much criticised at the time, but which has never been satisfactorily answered.[1] In his view these cases are analogous to those degenerations of tissue due to defective vitality to which the late Sir William Gowers gave the name "abiotrophy." These diseases present characteristic features, says Collins, wherever they occur, which differentiate them as a class from other affections. These features may be summarised as follows: 1. The tissue which is affected is one that has attained mature development and which then retrogresses. 2. The condition is one which commonly involves several individuals of the same family, either members of the same childship or members of different generations. 3. The parts affected are usually bilateral and the extent of disease is limited by definite anatomical landmarks (as, for instance, in the nervous system by a certain set of neurons). 4. The changes produced are progressive so far as the anatomical limits of the tissue permit, and recovery does not take place. 5. The tissues involved are those which have attained a high degree of specialisation. In all these respects a typical case of retinitis pigmentosa appears to conform. Physiologically the pigment in the hexagonal pigment cells is possessed of the power of amœboid movement which is exercised under the stimulus of light. In the normal retina, however, a barrier is formed by the external limiting membrane through which the pigment cannot pass. Atrophy of the rods and cones causes openings in this membrane through which the pigment is free to wander. According to this view, the sclerosis of the chorio-capillaries which is so often found is not the primary affection but is secondary to the retinal atrophy, and Collins supports his argument by citing the fact that the pathological examination of the eyes from four undoubted cases of retinitis pigmentosa in different stages of the disease by independent observers, has shown that it may occur without any discoverable sclerosis of the choroidal vessels.

With regard to the particular region of the retina first affected in typical cases, the advocates of the choroidal theory connect the ring scotoma and the distribution of the pigment in the periphery with the anatomy of the ciliary arteries, the disease commencing at a part where the supply of choroidal blood is least efficient.[2] Collins finds the evidence for this view insufficient and prefers to connect the distribution of abnormal pigment and scotomata with the fact that different regions of the retina are developed at different periods of fœtal life. "It appears that the neuro-epithelium of the ultimate central area of the human retina is of later formation than that of the parts around and that of the part immediately around the central area is the first to attain its full development." It is this paracentral area that is affected first in typical cases of retinitis pigmentosa, whereas the central area which is the last to be developed is usually the last to be involved. In the interval since this theory of "abiotrophy" applied to retinitis pigmentosa was first put forward, we have had but little fresh light on the problem. Mr. M. L. Hepburn, in an article in the September issue of the *British Journal of Ophthalmology*, supports the choroidal origin of the disease, and pertinently remarks in connexion with Collins's paper that he cannot quite follow the argument that perfectly healthy pigment and pigment epithelial cells should wander away from their normal position, merely because their anatomical boundaries in front are destroyed. The subject is complicated by the fact that there are certain cases of undoubted choroiditis in which the signs and symptoms are very similar to those of typical retinitis pigmentosa. Occasionally, it is very difficult to make the distinction between the two. If the supporters of the choroidal theory are right, there is no distinction in kind but only in degree. On the other hand, if the theory of "abiotrophy" is ultimately confirmed, the resemblance is accidental.

[1] Trans. Ophthalmological Society, 1919.

AN AD HOC RESEARCH.

TWO members of the Harmsworth family have contributed a sum of £25,000 to endow a research fund in memory of Mr. R. L. StJ. Harmsworth, who died of infective endocarditis. The object of the fund is to investigate, and, if possible, to solve, the problem of this disease; to this end the trustees of the fund will be advised by a scientific committee consisting of Sir Thomas Lewis, Sir E. Cooper Perry, Sir Thomas Horder, and Dr. Mervyn H. Gordon. In the first instance the work to be undertaken by the fund will be (1) the collation of facts as yet known concerning the disease, (2) a close study of cases at present under observation and treatment, and (3) research along any hopeful lines suggested by members of the scientific committee. Grants may be made to individual workers in this country or abroad, subsidies paid to workers whose present efforts are directed in the right direction, to others who undertake special new lines of research, and to those who contribute statistics, data, or results of private experiments. It is proposed to spend in this way the whole net income of the fund each year and to close the fund at any time by the grant of the whole of the capital to a worker adjudged (to quote the terms of the award) to have finally disposed of the present obscurity overlying our knowledge of the disease, and thus to give the profession "control" over the disease. Sir Thomas Horder, in a report to the trustees, gives an account of a typical case of infective endocarditis which is sufficiently graphic to set out here in full.

B. J., a young man of 28 years, comes under observation because of some general malaise following a short febrile illness which was thought to be "influenza." The temperature incident upon the latter disease does not subside, but persists without any obvious reason. Careful examination reveals no signs of any pulmonary disease, and the only structural change present is a valvular defect known to have existed since an attack of rheumatic fever at the age of 18 years. This defect had caused no handicap hitherto and even now there are no signs of any disability of the heart. Prior to the "influenza" the patient considered himself quite fit, although inquiry elicits the fact that this illness was not of sudden onset but preceded by some sweating at night,

[2] Nettleship: Royal London Ophthalmic Hospital Reports, vol. xv., part iii., January, 1903.

a few "rheumatic" pains in the limbs, and a sense of unfitness. On one occasion, six weeks before the "influenza," there had been a sudden sharp pain in the tip of one finger lasting for an hour or two, and leaving a small patch of dusky-red discoloration, which disappeared entirely after a couple of days.

Critical examination shows that the patient's complexion is sallow and slightly anæmic, and that there is a slight but definite enlargement of the finger ends—the so-called "clubbing" of the fingers. There has been a little loss of weight. The mental state is sanguine. Already, with this clinical picture, a suspicion of infective endocarditis is strongly aroused. The blood is cultivated, but no microbes are isolated from the specimen taken. A month later, however, two other negative cultures being made in the meantime, a streptococcus is isolated from the circulation, having characters that are recognised as being commonly met with in the disease. By this time the patient's condition has deteriorated a little; the temperature has persisted without a break, though there have been periods of a few days at a time when, perhaps as the result of some treatment, the height of the fever has been much less. There have been two or three recurrences of the sudden pains in the finger ends, and once a similar event occurred in one toe. On one occasion there was a little blood in the urine, clearing away in less than a week. A few minute hæmorrhages have been noted in the skin about the neck ("petechiæ"). The anæmia is rather more marked.

Despite all efforts at treatment—an open-air life, good food, tonic measures, two or three transfusions of blood from a suitable "donor," and a trial of several different types of sera and vaccines—there is a steady and progressive decline in the patient's condition. The disease, dating this from the time when the sweats and general malaise began—the "influenza" being now regarded as merely an exacerbation of the toxic state dependent upon the infection—has by this time lasted some six months. Although the patient is still optimistic, it is obvious, even to the uninitiated, that he is a stricken man. Examination of the heart shows no great change, but the signs of the old valvular mischief are more obvious and the heart muscle is now dilated.

Two months later the kidneys show signs of failure; albumin is present in the urine and there is slight dropsy present. The petechiæ have increased considerably in number. A good deal of flesh has been lost. Further blood cultures yield the same streptococcus on every occasion, and in increasing numbers. A state of drowsiness sets in, with other evidence of kidney insufficiency, and the patient sinks into a state of uræmic coma and dies. The disease has lasted for nine months, and its anticipated course and duration have been little, if at all, influenced by treatment.

Sir Thomas Horder concludes that the disease is in effect a form of chronic septicæmia associated with a septic focus in the wall of the heart, the brunt of the attack falling now on the kidneys, now on the brain, the lungs, or the heart itself. It attacks valves damaged by rheumatic fever, less frequently by other agents, and the influence of prolonged physical and nervous strain is an important factor in inducing the condition, hence the rise in incidence following the war. Dr. Gordon contributes a pathological note on the lesions and contrasts the uniform fatality of the disease once developed in the human subject with its comparatively feeble virulence in animals. From this it appears that infective endocarditis is not so much a primary disease as a sequel to previous disease, injury, or other depressing factor. One promising line of research should be an attempt to define the degree of the patient's specific resistance to the particular micro-organism, along which preliminary work has already been done on behalf of the Medical Research Council by Dr. P. O. Ellison, Dr. G. Bourne, and Dr. P. Hamill. Another is to inquire why the disease should select for attack the valves of the heart, and a third to determine the particular factor in the specific defence that breaks down. We have the opportunity of publishing this week a study of the incidence of infective endocarditis in congenital heart disease, made at the Middlesex Hospital by Dr. H. E. A. Boldero and Dr. D. E. Bedford, in which the interesting suggestion is made that the changed composition of the blood after passing through the lungs may explain the preponderance of left-sided lesions. It is, we understand, hoped that the research fund will be considered an appropriate medium for the collection of information. The secretary of the Scientific Committee is Dr. Seymour Price, at 41, Sloane-gardens, London, S.W.1.

THE ROYAL COMMISSION ON LUNACY.

THE Royal Commission on Lunacy Law and Administration and Mental Disorder held its first sittings at Westminster this week under the chairmanship of Mr. H. P. Macmillan, K.C. Under its terms of reference, which concern England and Wales only, the Commission is (1) to inquire into the existing law and administrative machinery in connexion with the certification, detention, and care of persons who are, or are alleged to be, of unsound mind; and (2) to consider the extent to which provision is, or should be, made for the treatment without certification of persons suffering from mental disorder, and to make recommendations. At the opening session the Board of Control, represented by Sir Frederick Willis, its Chairman, Mr. S. J. Fraser Macleod, K.C., and Dr. C. H. Bond, submitted evidence as to the existing working of the Lunacy Acts. The Board is itself the legal successor of the Lunacy Commission appointed in 1845 to inquire, as the Chairman of the Commission elicited, into the persons and not the property of persons of unsound mind. Detailed figures were given which may be thus summarised. The total number of insane patients on Jan. 1st, 1924, was 130,334, distributed as follows: in county and borough mental hospitals, 103,892; in registered hospitals, 2139; in licensed houses, 2797; in naval and military hospitals, 171; in the criminal lunatic asylum at Broadmoor, 785; in ordinary Poor-law institutions, 11,323; in metropolitan district mental hospitals, 5266; in private single care, 417; and in outdoor relief, 3544. The admissions to public mental hospitals during 1922 numbered 20,367, of whom 58·5 per cent. were admitted from Poor-law institutions, 37·2 per cent. direct from their own homes, and 4·3 per cent. from other sources. On Jan. 1st, 1924, the vacant bed space in mental hospitals was sufficient only for 4754 patients, while the average yearly net increase was 3565. Hence a considerable shortage of mental hospital accommodation existed. The Board felt that better use could be made of the existing accommodation if all the workhouse and mental hospital accommodation were under the control of the visiting committees, which in any case might through their expert medical staff supervise and direct the operation of the guardians. Mr. Macleod, at the Chairman's request, outlined to the Commission the course which would be adopted if a person in the room became of unsound mind. All lunacy orders were, he said, examined by the officials of the Board, and of the 30,000 certificates presented in the course of the year, few were found to be defective. Dr. Bond remarked that when an order was returned it was because it was so worded that the Board could not ascertain whether the symptoms mentioned were observed by the doctor on his examination. At a later sitting the Board of Control gave further evidence in regard to improvements that might be effected in administration.

IN HONOUR OF DR. BRACKENBURY.

ON the eve of the Insurance Service Conference, which is due to assemble next week, a reception will be held at the Hotel Victoria, London, in order to make a presentation to Dr. Henry Britten Brackenbury, who has almost identified himself with the name and fame of the medical insurance service. In the course of a strenuous professional life, Dr. Brackenbury has found time to take more than a share in the work of the community in which he lives, and in recognition of his service to fellow practitioners he received last July the Gold Medal of Merit of the British Medical Association. As with many others, it was in municipal life that Dr. Brackenbury served his apprenticeship to public office, for he is an alderman of the Metropolitan Borough of Hornsey and has passed the chief magistrate's chair, and he has also presided over the Association of Educational Authorities. We have already quoted the testimonial paid by the chairman of the Court of Inquiry to Dr. Brackenbury's brilliant work in presenting the case of the insurance

practitioner, for, he said, "we shall have to steel our hearts against being unduly influenced by his pleadings." Dr. Brackenbury has stated that he desired no better reward than the loyalty and sympathy of his colleagues—which he now possesses in full measure—but those colleagues are well aware both of the financial sacrifice he has made in serving their interest and of the weight which presses on a general practitioner who desires to provide for his own family the educational advantages which he has made possible for others. Along with the gold watch and canteen of silver, intended to be a perpetual reminder of the esteem in which he is held, a cheque for a substantial sum, approaching £6000, will be handed to him. The medical profession is happy in finding at moments of stress and emergency such men as have presided over the Insurance Acts Committee. There have been but two chairmen in the course of its history: Dr. J. A. Macdonald and Dr. Brackenbury, who is only now giving up the chairmanship of the Committee to become President-elect of the Representative Meeting.

THE FOOD INVESTIGATION BOARD.

WHEN the war-time Ministry of Food was finally demobilised, on the grounds that the necessity for its function had passed, its dissolution was looked upon with some misgiving by more than one authority on the subject. Prof. E. H. Starling, at one time scientific adviser to that Ministry of Food, was of the opinion[1] that there should be an inquiry or statistics department which should have knowledge of all food production and consumption, some organisation which could inform the Government as to the value of foods, and supply data and statistics of food consumption and distribution. The fullness of his vision has not yet become reality. Nevertheless valuable work has been done over a period of several years by the Food Investigation Board of the Department of Scientific and Industrial Research in the scientific study of food production and preservation. The Board, whose report for the year 1923–24[2] has just been published, has as its chairman-director Mr. W. B. Hardy, secretary of the Royal Society, and is composed of the following members: Sir Kenneth Anderson, Sir Joseph Broodbank, Sir Alfred Ewing, Sir Walter Fletcher, Sir Richard Threlfall, and Prof. T. B. Wood. The work of the Board is divided up among various committees, each of which deals with some particular branch of the work—namely, engineering, fish preservation, fruit and vegetables, meat preservation, oils and fats, and canned foods. During the past year the most important work carried out by the Board was an investigation into the conditions of the transport of apples from Australia to this country. In 1922 an epidemic of "brown heart"[3] was diagnosed among apples coming from Australia, and this gave rise to the sending of a small scientific expedition to Australia to study the conditions of transport. The ventilation of ships' holds was recognised as a problem of importance, and it was found that excessive ventilation, no less than inadequate ventilation, might be at fault, because the atmosphere surrounding the fruit controls the rate of ripening, and the effect is probably secondary only to that of temperature. Ripening is retarded up to a point more or less proportionately by the presence of carbon dioxide and by a subnormal concentration of oxygen. It is known that it is only in atmospheres containing too much carbon dioxide, over 10 per cent., that the disease of "brown heart" is apt to manifest itself. Starting on these lines, therefore, the whole question of ventilation in ships' holds was investigated from a wide point of view by the members of the expedition, but the special reports of the results have not yet been published. Further work has also been carried out by the Board on the general theory of the freezing of tissues. By studying the freezing of eggs it was found that the state of the yolk, at any rate, might be preserved in two ways without sensible change: either (1) by never allowing the temperature to fall below −6° C., or (2) by freezing and thawing with great rapidity. The report states that it is probable that there is some irreversible change in the nature of a coagulation which occurs at temperatures between −6° C. and an unknown lower limit, which does not occur if this critical interval is hurried over with sufficient rapidity. Laboratory researches have been continued at the Low Temperature Research Station, Cambridge, and at the Imperial College of Science and Technology in London, on such questions as the physiology of fungal infection, the effect of low temperature upon metabolism of apples and upon the parasitism of fungi, and the respiration of potatoes in relation to sugar content.

[1] THE LANCET, 1919, i., 591.
[2] Report of the Committee of the Privy Council for Scientific and Industrial Research for the Year 1923–24. London; H. M. Stationery Office. 1924. 3s.
[3] THE LANCET, 1923, ii., 492.

VOLUNTARY HOSPITALS IN GREAT BRITAIN.

THE fifth annual report[1] of the Joint Red Cross Council on the Voluntary Hospitals in Great Britain (excluding London), which appears as we go to press, is signed by Dr. F. N. K. Menzies, Director of Hospital Services. Dr. Menzies asks for indulgence in view of his inability to take up the late Sir Napier Barnett's work until late in the year. His very notable report analyses the records of over 700 hospitals in England and Scotland with a total expenditure in 1923 of £6,381,115 and total receipts of £7,689,072. In this wonderful year the ordinary income exceeded the ordinary expenditure by over £200,000, and the extraordinary income exceeded the extraordinary expenditure by over £1,000,000. Sixty-seven per cent. of hospitals in England and 62 per cent. of hospitals in Scotland showed a surplus of ordinary income. In these hospitals 770,000 more patients were treated in 1923 than in the previous year, and Dr. Menzies thinks that the time has gone by for the voluntary hospital system to justify itself as a means of relieving sickness and suffering at little or no cost to the public purse, and that the system should boldly claim to carry out this immense volume of work more efficiently and more economically than it could be done by any other known method or system. The charitable public, he is glad to think, is becoming more and more discriminating in the selection of the voluntary institutions which it will support. For himself, he urges the provision of greater facilities for the treatment of such diseases as ophthalmia neonatorum and infantile paralysis, and he exhorts boards of management to acquaint themselves with the particular needs of the area which they serve and to consult the general practitioner as to how they may best assist him in the diagnosis and treatment of his patients. Finally, Dr. Menzies sees great scope for economy in the drug bill of the provincial hospitals of Great Britain, which in 1923 seems to have exceeded £200,000. The report, from which we have taken only one or two salient points, contains a vast amount of material for thoughtful study.

[1] Offices of the Council, 19, Berkeley-street, London, W. 1s.

LEEDS CITY COUNCIL'S SUBSIDY TO HOSPITALS.—At a meeting of the Leeds City Council on Oct. 3rd, it was moved and carried that a grant of £10,000 be made to the Leeds General Infirmary, Leeds Public Dispensary, and the Hospital for Women and Children in consideration of an agreement being entered into by each of the committees of these hospitals with the Corporation for the reception by such institutions of the sick inhabitants within the city, the amount to be distributed amongst the hospitals in such proportions as might be decided by the Finance and Parliamentary Committee. There is no question of municipalising the hospitals. At the meeting it was stated that 65 per cent. of the employers of the city were now contributing through the employers' scheme and it appeared only right that the Corporation, as an employer, should contribute. Over 700 Leeds firms are now contributing under the employers' contribution scheme.

Modern Technique in Treatment.

A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.

XCI.

THE TREATMENT OF POST-MENOPAUSAL HÆMORRHAGE.

BLEEDING from the genital tract after the menopause is so often a symptom of carcinoma that every case met with should be considered malignant unless proved, on careful examination, to be innocent. A heavy responsibility is thus laid on the practitioner who is consulted about such a case, and an awkward situation may arise between him and his patient. It is unjustifiable to treat such cases symptomatically by the administration of ergot or similar drugs. On the one hand, it is unlikely that these drugs will have any beneficial effect; and on the other hand, valuable time may be lost during which a malignant growth may become inoperable.

The Need for a Complete Examination.

When consulted about a case of this kind the practitioner should point out that a pelvic examination is desirable to find out exactly what is wrong: should the patient refuse, he should then state clearly that such bleeding is usually due to early cancer of the womb and that an examination is necessary to determine the point. If the refusal is persisted in, he has cleared himself from future blame and might be justified, in certain circumstances, in refusing to treat the case in ignorance of what is to be treated. The first essential then is a thorough examination to determine the cause of the bleeding.

On abdominal examination a pelvic tumour may be found, but more often is not detectable. In making a pelvic examination it is advisable first of all to examine the vulva in a good light. An unexpected epithelioma of the vulva may be seen, a urethral caruncle, or bleeding hæmorrhoids. Caruncle is not usually a cause of bleeding, but in a certain proportion of elderly patients it will be found associated with carcinoma of the cervix or corpus uteri. When examining the cervix it must be remembered that after the menopause the cervix is small and atrophic, and finally forms a depression rather than a prominence at the vaginal vault. A prominent cervix at this period would be noteworthy, especially if hard and nodular. Another part to be carefully examined is the external os. This may be patulous, and a mucous polyp may be found inside or projecting through the aperture. In other cases the os may be widely dilated, embracing a partially extruded and often degenerating fibromyomatous polypus.

The corpus uteri must now be examined, and here again size and consistency are of the first importance. A post-menopausal uterus is small, and in later life very small, so as to feel almost like a uterus on which subtotal hysterectomy has been performed. Therefore, if the uterus be bulky like an endometritic uterus in early life, and especially if it be definitely hard, the probability of carcinoma of the body is great. If the uterus be enlarged to the size of a cocoanut or more and of a wooden or stony hardness, the chances are more in favour of a fibromyoma, probably undergoing degeneration, it may be malignant degeneration. The fornices must be examined, and any tumour of the appendages carefully noted. Finally, the condition of the heart, lungs, and peripheral vessels should be investigated, and the rectum and bladder examined, the latter by cystoscope if the bleeding appears to originate there.

Lesions Which May be Found.

The various lesions to be described collectively constitute the main causes of post-menopausal bleeding.

On the vulva a patch of epithelioma may be found; pathological conditions of the vagina are rare, and epithelioma, usually extending along the anterior wall from the cervix, is the most common; at the cervix carcinoma is the most common single cause of hæmorrhage, accounting for fully 80 per cent. of all cases. It may be ulcerating or fungating, but more often it is of the atrophic variety. Mucous or fibroid polypi may also be met with here, but such cases must be explored carefully by the curette or finger, as polypi of the cervix are often associated with carcinoma of the corpus uteri. In the corpus uteri, carcinoma or sarcoma are shown by bulkiness and hardness and usually also by a certain degree of fixation; fibromyomata are usually shown by greater size and greater hardness; fibrosis uteri is shown by hardness but little or no increase in size; while in senile endometritis the uterus is only a little enlarged and soft. Carcinoma of a Fallopian tube may be associated with hæmorrhage, but it is a rare condition. Ovarian cysts which are associated with post-climacteric hæmorrhage are to be regarded with suspicion as being probably malignant. From the general point of view, cardiac lesions, chronic renal disease, and high blood pressure may be causative, but only in a very small proportion of cases. Again, in a certain number of cases the most careful examination will detect no physical abnormality anywhere, but such cases are very few.

It cannot be too strongly emphasised that the most probable cause in any individual patient is carcinoma of the cervix or corpus uteri, and this lesion must be presumed until and unless shown to be absent. These considerations will suggest the principles of treatment, which in the great majority of cases is surgical.

Surgical Treatment.

If epithelioma of the vulva or cervix, or carcinoma of the uterus be found, wide removal of the vulval condition, or total hysterectomy, as the case may be, is indicated if the condition be removable. This determination of operability is a most important point which, however, cannot be discussed here. Suffice it to say that while about 60 per cent. of cases of carcinoma of the body of the uterus, and about 30 per cent. of cases of epithelioma of the vulva are removable, it is usual for carcinoma of the cervix to be advanced beyond operation when first seen. This, which is the common experience of all gynæcologists, points the moral of making an early pelvic examination in every case complaining of post-climacteric hæmorrhage. In cases where the vulva, vagina, and cervix are normal the uterus is to be carefully explored by curette or finger. Mucous polypi of the cervix may be removed by forceps or a sharp spoon, but in such case the cervix should always be dilated and the interior of the uterus curetted. The curettings should be microscopically examined for signs of carcinoma. In cases of senile endometritis the curette removes a large amount of broken down débris, often foul, and such cases usually clear up after this operation, which may require to be repeated. In carcinoma of the corpus uteri the cervix is easily—suspiciously easily—dilated, and the material removed by the curette is characteristic. It is of a greyish colour, profuse in amount, soft, cheesy, and often accompanied by bleeding. The curette is to be used gently in order to avoid perforation of the uterus.

In chronic metritis curettage is useful for purposes of diagnosis and exclusion. The amount removed from the uterus is very small or almost nil, and in some cases the hæmorrhage will cease after curettage, but usually it persists. In these cases and also in cases of inoperable carcinoma *radium* is of the greatest value.

Radiotherapy.

In chronic metritis the dosage of radium should be small. A tube of 50 mg. of radium bromide sheathed in platinum is inserted into the cavity of the uterus and left there for eight hours. In about half the cases

hæmorrhage ceases after one such application. In the other cases it is either unaffected or improved, and another application should be given after a month's interval. By this treatment quite 75 per cent. of simple hæmorrhages from the uterus can be controlled. In the cases which do not react favourably, hysterectomy is the only choice left open. In inoperable carcinoma or sarcoma of the body of the uterus 100 to 120 mg. should be introduced into the uterine cavity for 24 hours. The effect of this is usually most beneficial and the hæmorrhage ceases, the discharge disappears, and the patient's general condition improves. Should the bleeding recur, the treatment can be repeated; again, the local conditions may so improve that a patient at first considered inoperable can later be operated on with safety. In inoperable carcinoma of the cervix it is a matter of personal opinion as to whether any fungating or ulcerating condition should be curetted before radium is applied. The cervix should be steadied with a volsellum, if it is possible to catch it without tearing, and two tubes of 50 mg. of radium each are introduced into the cervical canal. Several other smaller tubes are inserted into the peripheral parts of the growth, giving a dose of 170 mg. in all, which should be left in for 24 hours. The effect of this is usually most satisfactory, the bleeding and discharge ceasing within a week or two, and the local condition usually healing up almost beyond recognition. Such patients have to be watched from time to time, and it is well to repeat the application after four weeks. In vulval epithelioma the results of radium therapy are disappointing.

Fibromyomata of the uterus should be removed by appropriate means. This usually involves hysterectomy, but a pedunculated polyp may be removed per vaginam by avulsion or cutting with scissors or, if the condition be larger and degenerating, by morcellement. If sloughing and pedunculated, laparotomy is to be avoided if at all possible on account of the grave risk of peritonitis. In some cases vaginal hysterectomy is indicated, but the abdominal route is more often chosen to-day. Ovariotomy or salpingo-oöphorectomy is called for where an ovarian cyst or tubal disease is present, and in these cases it is better to remove the uterus at the same time. A urethral caruncle can be removed most easily by the actual cautery at a dull red heat and using a fine point. With the patient in the lithotomy position the caruncle is gently pulled on with forceps and the cautery point passed through the urethral mucosa at its base. If general anæsthesia be undesirable, local infiltration with novocaine and adrenalin does very well.

Drugs do not require discussion, because in bleeding of the type under consideration ergot, pituitrin, adrenalin, and such preparations are generally found to be of no value, as would, indeed, be judged probable from a consideration of the causes of the bleeding. Almost always the bleeding has a local cause and requires local treatment.

Conclusion.

It will be evident from what has been said that post-menopausal hæmorrhage as a rule indicates a serious, and it may be a fatal, condition. Treatment is usually operative and may involve a major operation, and it is on that account that a thorough pelvic examination should be made as soon as possible, in order that appropriate treatment may be instituted at a time when it may benefit the patient.

GILBERT I. STRACHAN, M.D. Glasg.,
M.R.C.P. Lond., F.R.C.S. Eng.,
Assistant Gynæcologist to the Cerdiff Royal Infirmary.

Messrs. William Hodge and Co., Ltd., announce for early publication two further volumes in the Notable British Trials series. The first will deal with the well-known case of Adolf Beck and is edited by Mr. Eric Watson. The second will deal with Henry Fauntleroy, the banker, who was tried for forgery and executed in 1824, and is edited by Mr. Horace Bleackley.

Special Articles.

THE WORKING OF THE INSURANCE MEDICAL SERVICE.

WITH the end of 1923 the Insurance Medical Service completed the eleventh year of its existence. In the annual report[1] Sir George Newman states, and with some justification, that the inception of this service in 1913 was one of the most important events in the history of British public health progress, for which the establishment of the insurance doctor the State assumed large responsibilities for the medical treatment of practically the whole of the wage-earners of the country. The Insurance Medical Service follows closely the lines of private general practice. State control and State interference are reduced to the minimum that is compatible with due recognition of public responsibility, and one of the chief aims of the service is to preserve that intimate relation of doctor and patient which finds expression in the phrase "the family doctor." It has been made a reproach against the Insurance Medical Service that it provides nothing more than the services of general practitioners. It is true that the service would work with much greater effect if coördinated with a comprehensive scheme of consultant services. Such a scheme was devised in 1914, and the necessary funds were voted by Parliament; but the project foundered in the great catastrophe of the war.

General Work of the Medical Practitioner.

There is danger that the value of the general practitioners' work may be overlooked. Though it avoids publicity, and meets with scant public recognition, its public importance and utility are immense. The general practitioner forms our first line of attack in the fight against disease and premature death. His skill must be the sieve that distinguishes the important from the unimportant, and if he is worthily to play his part it is essential that he should be familiar with the beginnings of disease, for it is in its beginnings that disease can be most successfully controlled. Early recognition is equally important from the point of view of the patient. It would be too much to expect the general practitioner to make a confident diagnosis in every case; but he will, if ordinarily well-equipped, be able to select those cases in which he should seek specially skilled assistance to enable him to arrive at a right view of the case. To this end it is essential that the general practitioner should be closely in touch with the workers in his area who are engaged in other fields of medical work. There are many and various agencies, both voluntary and State-aided, for the control of disease, and they would all work with greatly enhanced effect if coördinated as parts of a complete scheme of medical services. The precise reciprocal relation of each agency to the others needs to be carefully thought out, clearly defined, and brought into effective operation. The framing of such a scheme is a matter of considerable difficulty, but Sir George Newman says it has long been overdue, and the benefit to the country of the establishment of such a comprehensive coördinated system would be immense. The expenditure of labour and money which each of the various health agencies already puts forth year by year is, it is true, enormous; but for lack of proper coördination the highest possible return for such expenditure is not attained.

Particular Work of the Insurance Practitioner.

As a general practitioner, the insurance doctor has the important advantage that, through the absence of any financial deterrent, his insured patients consult

[1] On the State of the Public Health. Annual Report of the Chief Medical Officer of the Ministry of Health for the year 1923. 3*s*.

him earlier and more frequently than do his private patients. Medical attendances shown by the record cards to be given to insured persons are about three times as numerous as those stated in the Plender report to have been given in private practice per head of the population. The general practitioner has, therefore, much greater opportunities in insurance practice than in private practice of seeing those illnesses, trivial perhaps at initiation, which constitute the beginnings of serious disease, and is also more favourably placed for close observation of the course of an illness in an insured patient than in most private patients. His special relation to the State involves also the fulfilment of functions of peculiar importance to the community, three of which are thus briefly set out in the report:—

1. *Incapacity Certification.*—Not only have insurance doctors to secure the speediest possible termination of the wage-earners' sickness, but they have also the important duty of determining whether their patients are, or are not, incapable of work, and of giving, or refusing, medical certificates of incapacity in accordance with their opinion in each case. Every year in England and Wales over 11 million pounds are expended in sickness and disablement benefit to insured persons who are incapable of work, and in nearly every case the chief evidence, in many cases practically the only evidence, of incapacity is the certificate of the insurance doctor. It is doubtful whether the importance of this side of the insurance doctor's work is sufficiently appreciated. Its difficulties are great, for the question whether a patient is incapable of work is not one that can be determined by the routine application of general rules.

2. *Advancement of Medical Knowledge.* — The incapacity certificates of the insurance practitioners afford an immense mass of statistical material relating to those insured persons whose sickness has reached the point of causing incapacity for work; and in the medical records kept by insurance practitioners, in respect of the illnesses of all patients attended by them, whether incapacitated or not, there is a greater mass of material available for statistical examination, adding to our knowledge of the incidence of disease and its results. Further, the insurance doctor, in addition to furnishing the data so far mentioned, which emerge in the routine course of his daily work, is exceptionally well placed for participating in special inquiries into various problems of disease prevalence, of which the recent inquiry of the Rheumatism Committee of the Ministry is an instructive example. The report of the Committee is largely based on observations on their insured patients made by 49 insurance practitioners working in coöperation with medical officers of the Ministry.[1] The number of insured persons on each practitioner's list being known, the total population at risk was estimated with sufficient accuracy; and thus it was possible to obtain information of the incidence of rheumatism on a population of 90,000 persons, which was regarded as a sufficiently large and varied group to form a reasonable sample of the total insured persons in England and Wales. The report of this inquiry clearly shows the opportunities opened up to the insurance practitioner in elucidating some of the most baffling of the problems of disease.

3. *Public Education in Hygiene.*—The special relation of the insurance practitioner to his insured patients is of exceptional importance, as affording him opportunity as an educator in health. The obstacle of the fee is not interposed between the insured person and the doctor of his choice. The insured patient can consult his doctor at the first onset of disquieting symptoms. The deterrent effect of the doctor's bill does not exist for him; and his doctor is not a stranger, but an adviser, who is freely chosen by him, and may have attended him for years. Hence the insured person goes to his doctor early and often. Many of his patients are young, for employed persons come into insurance at 16 years of age, and the insurance doctor, going as he does freely into the homes of his patients, and knowing their home conditions, is well able to advise on the healthy ordering of the home, the formation of healthy personal habits, hygienic diets, suitable occupations, and other measures tending to "keep the doctor away." It is on such activities, says Sir George Newman, rather than on the prescribing of innumerable bottles of medicine that we must base our hopes for further progress towards the realisation of our health ideals.

[1] Reports on Public Health and Medical Subjects, No. 23, The Incidence of Rheumatic Diseases, 1924.

The Work of the Year.

With regard to the actual work carried out under the Insurance Medical Service during the year 1923, the following statements of particulars will be of interest. Though it will be understood that the value of the service cannot be expressed in terms of statistics, some idea of the magnitude of its work may be formed from these facts and figures.

Insured persons can obtain medical treatment under the provisions of the Insurance Acts by one of three methods. (i.) By far the most usual method is for the insured person to place himself under the medical care of a practitioner who has accepted the conditions of the insurance service and whose name is included in the Medical List of such practitioners prepared by the insurance committee of the area. (ii.) He may elect to obtain treatment from a medical aid institution existing at the time of the passing of the National Insurance Act, 1911, which has been approved by the Insurance Committee and the Insurance Commissioners under Section 15 (4) of that Act; or (iii.) he may with the consent of the local insurance committee make his own arrangements for medical attendance, receiving from the committee a contribution towards the cost of such treatment.

The following table shows to what extent these various methods are selected by the insured population. In 1923 the number of insured persons entitled to medical benefit under the Insurance Acts was (approximately) in England 12,487,000, and in Wales 833,000, making a total of 13,320,000. The approximate number of insured persons who had elected to obtain treatment by each of the methods described is given below:—

—	No. of insured persons.		
	On lists of insurance practitioners.	On lists of approved institutions.	Making their own arrangements.
England	12,000,000	130,000	29,000
Wales	749,000	31,000	7,500
Total ..	12,749,000	161,000	36,500

The number of insurance practitioners in 1923 was in England 12,000, and in Wales 855, a total of 12,855. The average number of insured persons on a doctor's list was 992.

Some Misconceptions.—It may be useful in this connexion to mention two rather widely-spread misconceptions of the work of the Insurance Medical Service. One is that there is a great number of insurance doctors with excessively large and unwieldy lists. The fact is that only 2·1 per cent. of the doctors have a list of over 3000 persons, and in no such case does the doctor work single-handed. The total number of doctors having 2000 or more insured persons on their respective lists is under 14 per cent. of the total number of insurance doctors, and many of these employ assistants. Under the old regulations the maximum number of insured persons on the list of a doctor working without a partner or assistant was 3000, and this maximum has been reduced to 2500 by the regulations that came into operation on Jan. 1st, 1924; and in any area this maximum may be still further reduced by the Insurance Committee in agreement with the Panel Committee. More than

one-half of the insurance practitioners have less than 1000 persons per doctor's list.

Another misconception is prevalent as to the amount of work falling upon a doctor with a list of a given size. On this point valuable information was collected in an examination made of the medical records of a large number of representative practices by the Regional Medical Staff in the summer of 1923. The records of the practices showed that the visits and attendances made during 1922, due allowance being made in respect of persons who died or lapsed from insurance during the year, were equivalent to 3·5 per person on a doctor's list, whether well or sick; and thus a doctor having 2000 persons on his list would, assuming 300 working days in the year, make on an average about 7000 visits and surgery attendances during the year, or about 8 visits and 16 attendances per working day.

Arrangements with Chemists.—Insured persons normally obtain their medicines and appliances from chemists on a doctor's prescription, but in country areas where no chemist is available the doctor on whose list the insured person's name is placed supplies medicines and appliances. The insured person has a free choice of chemist as well as doctor. He is perfectly free to take any given prescription to any chemist whose name is on the list of insurance chemists of the area. The number of chemists' shops available for the supply of medicines and appliances to insured persons in 1923 was in England 8500, and in Wales 626, total 9126. The total number of prescriptions dispensed was, approximately, in England 36,000,000, and in Wales 2,000,000, total 38,000,000. The estimated cost of medicines and appliances supplied was, approximately, in England £1,430,000, and in Wales £86,000, total £1,516,000.

Additional Benefits of Approved Societies.—Approved societies having a disposable surplus at the first valuation, which was made as at Dec. 31st, 1918, can, besides administering the ordinary cash benefits, —namely, sickness, disablement, and maternity benefits—devote the whole or part of their disposable surplus to the provision of certain additional benefits specified in the National Health Insurance Acts. The additional benefits at present available are administered by approved societies under the general supervision of the Ministry and have no direct relation to the Insurance Medical Service, except that an insurance practitioner who has advised a patient to obtain special treatment, payment for which is made by his society as an additional benefit, is under an obligation, if so requested by the patient, to include in his next medical certificate a statement of the form of treatment so advised. Over 1000 societies and branches have adopted schemes which include what are designated "treatment benefits," these taking the form of contributions by the societies for defraying the whole or part of the cost of some form of special medical or dental treatment obtained by their members. The most popular of the "treatment benefits" is dental benefit, which may comprise the provision of dentures as well as defraying the cost of dental treatment. Other benefits take the form of payments for optical treatment and glasses, or for the supply and repair of artificial limbs or appliances, such as crutches, surgical boots, and trusses. Nearly £300,000 was available in the year 1923 for payments to hospitals or convalescent homes in respect of in-patient treatment, and some societies maintain convalescent homes of their own. The total amount actually expended in the year 1923 on the provision of additional benefits was about £500,000.

The Regional Medical Staff.

The end of the year 1923 marked the completion of the third year of the work of the Regional Medical Staff, which was initiated in the latter part of 1920. The staff, which consists at present of 31 regional medical officers and five divisional medical officers, was appointed with a dual object. First, it was desired to make available to doctors and societies alike the opinion of a medical referee in cases of doubtful incapacity for work, and also in cases of admitted incapacity in which a second medical opinion was thought likely to lead to the restoration of the patient's capacity for work. But, secondly, the view was also held, and it was a view that was soon amply confirmed by experience, that the existence in the main centres of population of a body of senior medical men of long experience in industrial practice would afford the department special opportunities for carrying out work of considerable public health importance which otherwise could not have been accomplished except at material disadvantage. The number of cases of doubtful incapacity for work referred to the staff during the year was 146,381, as against 113,685 in the previous year, an increase of 29 per cent. Of the total 146,381 cases, 144,556 were referred by approved societies, 542 by insurance committees, and 1283 by practitioners. The total number of persons referred who were examined during 1923 was 85,773, and of these, 63,402 were found to be incapable and 22,371 not incapable of work. An additional 60,261 persons referred for examination declared off the funds, or for some other reason failed to present themselves for examination. There were also 2802 "consultation" cases referred, 2344 by societies, 452 by practitioners, and 6 by insurance committees, the number examined being 1985. The total number of incapacity and consultation cases referred during the year was 149,183, and the number of cases in which an examination was made was 87,758. In addition, the staff examined at the request of the Ministry of Labour 31 pensioners in regard to whom doubt was felt whether they were fit to attend for training; and examinations were made on 432 persons claiming pensions under the Blind Persons Act, 1920, on the ground that they were so blind as to be unable to perform work for which eyesight is essential.

Several special investigations were undertaken by the staff during the year. Special inquiries were made into disease prevalence, and into various administrative questions arising in connexion with the Insurance Medical Service.

Inspection of Insurance Medical Records.—Insurance practitioners have the duty of keeping records of the illness of their insured patients. The record is a document of considerable clinical importance, since it is in a permanent form and passes from one doctor to the other with every change of doctor made by the patient. Obviously, there must be some system of supervision of the keeping of documents so important; and from the first it was clear that such supervision could best be undertaken by the regional medical officers, who, in their work as medical referees, are necessarily brought into close relation with the practitioners of each area. The number of visits made by the staff for purposes of record inspection during 1923 was 5903, and the improvement in the methods of record-keeping was found to be maintained during last year. Much useful work was done by the staff in showing how the records could best be kept in such a way as to derive full benefit from their use while observing due economy of the time of a busy practitioner. In a small number of cases the counsel of the regional medical officer failed to secure a proper standard of record-keeping, and the facts were reported to the Minister for further action.

Inspection of Dangerous Drugs Records.—Insurance practitioners who dispense medicines are subject, like all dispensing doctors, to the requirement, imposed by the regulations made under the Dangerous Drugs Acts, to keep records of their purchases and supplies of the drugs to which those Acts apply. By arrangement between the Ministry and the Home Office, such records, whether kept by insurance or non-insurance doctors, are inspected by the Regional Medical Staff, and during 1923 there were 4401 visits of inspection made for this purpose. In addition to the routine inspections some 20 visits were made

at the request of the Home Office to doctors who appeared to be prescribing or dispensing the drugs for purposes other than that of medical treatment. In each case the provisions of the Acts applying to medical practitioners were fully explained to the doctor, and a special report made on the case for transmission to the Home Office. Hospitals are also required under the Acts to keep records, which are inspected by the staff, who, during the year, made 112 visits of inspection.

Sir George Newman states, however, that the value of the work of the Regional Medical Staff cannot be estimated from a mere recital of the number of inspections and examinations made annually. Its chief value, he considers, lies perhaps in its indirect influence upon the Insurance Medical Service, as the work of the practitioners cannot but be affected by the knowledge that their methods of practice come under the review of a senior colleague, who from his own experience as a general practitioner is well aware of the circumstances that make for a high standard of professional work.

NATIONAL HEALTH INSURANCE UNDER THE WELSH BOARD OF HEALTH.[3]

The conditions during the year were on the whole more favourable from the approved society point of view than in the previous year, in that unemployment, though still general, was less severe, and benefit claims were less numerous. Many societies, however, found their disablement benefit claims very heavy. Special arrangements were again made to credit members who were unemployed for prolonged periods with sufficient contributions to maintain their title to benefits.

The standard of administration in the case both of societies and of branches showed a substantial improvement. The department continued to review closely the administration of all units, particular attention being paid to cases in which the audit reports revealed weaknesses, or complaints were made by members. Furthermore, steps were taken to render assistance and guidance to all newly appointed secretaries. Evidence is not wanting that secretaries generally are more alive than formerly to the importance of keeping their records up to date, and of administering the various benefits promptly and efficiently. The adverse industrial conditions prevailing, with the consequent unemployment and distress, have also resulted in better appreciation and understanding of the provisions and requirements of the Acts generally.

Deposit Contributors.

The membership of the Deposit Contributors Fund now remains fairly constant at about 10,500. It is observed that about 5500 new accounts are opened annually, whilst about the same number of persons annually cease to be deposit contributors by reason of transfer to approved societies, lapses from insurance, emigration, death, &c.

The efforts made to bring to the notice of deposit contributors the advantages of approved society membership have been continued throughout the year. The number of effective applications received during the year for transfer to societies was 3640. It is hoped, however, Mr. Wheatley states, that the additional benefit schemes adopted by societies, consequent on valuation results, will appeal to a larger number of deposit contributors. So far there has been no marked effect in this direction, and experience has shown that the contributor, as a rule, remains somewhat indifferent to his insurance position until the question of cessation of benefit arises owing to the exhaustion of his credit. During 1923 over 500 payments of benefit ceased by reason of exhausted credits.

[3] From the Fifth Annual Report of the Ministry of Health, 1923–24. London: H.M. Stationery Office. 5*s*.

MEDICINE AND THE LAW.

THE CHARGE AGAINST DR. HADWEN.

THE Gloucester City Bench recently committed Dr. W. R. Hadwen for trial at the next assizes on a charge of manslaughter, arising out of the death of Nellie Burnham, 10½ years of age, the daughter of a steel presser. Dr. Hadwen had already been similarly committed on a coroner's inquisition in respect of the same death,[1] the allegation being that the child died of diphtheria, and that he was guilty of negligence in treating her. The evidence before the magistrates was mainly that of witnesses called at the inquest, with the addition of Sir William H. Willcox. Mrs. Burnham, mother of the deceased, stated that in washing the child's clothing after her death she found in the bath "a piece of substance like chewed tissue-paper," yellow and similar to the substance she had seen in the throat of her child. She admitted not having told the coroner of this, as it had "slipped her memory" when in the witness-box, and it was not until she heard the medical witnesses at the inquest giving evidence as to the membrane that she realised it was something important, otherwise "she would have spoken about it at the time." Dr. E. S. Ellis, who was called in before the child died and refused to give a certificate, as he had not "attended her in her last illness," repeated his evidence and was cross-examined as to a correspondence which he had had with Dr. Hadwen arising out of the recent epidemic of small-pox. Dr. Ellis admitted having at that time resented an attack made by Dr. Hadwen upon the medical profession in an advertisement inserted by him in a local newspaper. He said, however, that an arrangement had been made with regard to this controversy, that he was a member of committees with Dr. Hadwen, and though he was not on speaking terms with him at the time referred to in his evidence, Dr. Ellis denied that he had "any animus whatever" against Dr. Hadwen. Sir William Willcox gave expert evidence as to the symptoms of diphtheria and its detection, particularly with regard to the desirability of taking a swab. With reference to Dr. Hadwen's treatment of the deceased, he said that it was not proper treatment, that he did not think that if Dr. Hadwen had made a careful examination he could have failed to notice symptoms indicating diphtheria "unmistakably." In reply to a question, he answered: "I think if proper treatment had been given the first day there is reasonable probability that the child's life would have been saved."

An interesting question of the limits and admissibility of expert evidence arose when Sir William Willcox was asked by Mr. St. John Micklethwait, counsel for the prosecution, whether the patient's death was caused or accelerated by Dr. Hadwen's failure. Mr. A. F. Clements, for Dr. Hadwen, objected to this as tantamount to asking whether Dr. Hadwen had committed manslaughter. The magistrates held that the witness as an expert was entitled to express an opinion as asked, and Sir William Willcox answered: "In my opinion, in all reasonable probability it was." As to the possibility of the child having contracted pneumonia by going downstairs to get water, he was of opinion that it was possible but extremely unlikely. Sir William Willcox had no doubt that the case was one of diphtheria, and added that even if Dr. Hadwen doubted it, there was no justification for his not taking a swab. After counsel had submitted that there was no case on which a jury could convict of manslaughter, the magistrates retired to consult, and on their return to court announced their decision as stated above.

QUERY DRUNK.

Mr. H. W. Wilberforce, at Marylebone police-court, recently sentenced to 21 days' imprisonment T. F. Goode, a mechanic, and suspended his licence for six

[1] THE LANCET, Sept. 20th, p. 626.

months, on a charge of being drunk while driving a motor van. The man had admitted having had two glasses of beer and some whisky, and Dr. C. J. R. McFadden, who gave evidence in his capacity of police surgeon, certified that Goode was suffering from the effects of alcohol when he saw him, and said that he was not sober, and was not fit to be in charge of a vehicle. This did not satisfy the magistrate, who pressed the medical witness to say definitely whether the man was, or was not, "drunk." To this he received the reply that the question put in this way was a very difficult one to answer. "He was in a certain degree drunk," said the witness. On this the magistrate accused Dr. McFadden of trying to "wriggle out" of giving a definite answer to the question, and obtained finally the reply that Goode was "suffering from drunkenness." "Well, he was drunk," said Mr. Wilberforce, and inflicted penalties as above stated, after making the further comment that medical men preferred to make their own definitions and resented the attempts of other people to get answers in a form which they (the doctors) did not approve.

In comment it is to be observed that a medical witness endeavouring to express himself with accuracy and without any unfairness to the accused person cannot justly be described as "wriggling" because he prefers to say that a man is suffering from the effects of alcohol and unfit to drive a motor car, rather than to describe him baldly as "drunk." And it is of interest to all medical men liable to be called on such occasions to know exactly what the law expects of them. This is not very easy to state, if Mr. Wilberforce and any other magistrate who agrees with him are right. "Drunk" is a more or less popular term of an elastic nature. Murray's English dictionary defines as drunk a man "that has drunk intoxicating liquor to an extent that affects steady self-control; intoxicated, inebriated, overcome by alcoholic liquor." To this is added, "the degree of inebriation is expressed by various adjectives and adverbs, as 'beastly,' 'blind,' 'dead,' 'half,' &c." Later on the same authority quotes from Swift an eloquent but not very definite illustration of more or less extreme intoxication. "He came to us as drunk as David's sow." "Drunk" is not a medical term, and it is submitted that in the case of motorists it is the function of the magistrate to find as a fact whether the accused person was drunk when in charge of a motor car, that is to say, too much under the influence of alcohol for it to be safe for him to drive it, and that the magistrate in so doing has to base his finding on the evidence of witnesses, of whom the doctor can only depose to, and draw inferences from, the man's condition when he saw him, this being in most cases some little time after arrest by the police.

The essential point in cases such as the above would appear to be whether the man was unfitted by liquor for driving a motor car on a highway with reasonable care for the safety of others, and with the capacity to arrive quickly and accurately at correct decisions in the emergencies inseparable from such a task. The definition of drunkenness as a condition affecting steady self-control appears to cover this very fairly, but the general application of the term "drunk" goes rather further, and a witness may wish to know how the word is interpreted by the questioner in the circumstances in which the question is put. The popular conception of "drunk" comes nearer to "overcome by alcoholic liquor" or "as drunk as David's sow," and probably Dr. McFadden had this in view when Mr. Wilberforce thought that he "wriggled" in the witness-box.

YORKSHIRE TUBERCULOSIS SOCIETY.—On Saturday, Oct. 25th, at 4 P.M., at the Tuberculosis Dispensary, Queen's-road, Sheffield, Mr. Morriston Davies will lecture, with lantern illustrations, to the Society on Surgery in the Treatment of Pulmonary uberculosis. All medical practitioners are welcome.

ST. MARY'S HOSPITAL MEDICAL SCHOOL.

POST-GRADUATE COURSE.

THE week-end post-graduate course at St. Mary's Hospital was established two years ago, and the 11 meetings held from Oct. 4th to 6th proved as popular to medical men and women as those of the preceding years. The attendances at each lecture and demonstration numbered from 80 to 150.

On Oct. 4th the first lecture was delivered by Mr. T. G. Stevens, the subject being

Chronic Metritis and Allied Disorders.

Mr. Stevens said that chronic metritis or, as it was formerly called, fibrosis uteri, was the name given to a condition of hypertrophy of the uterine muscle and connective tissue associated with an elastic tissue replacement of the muscle coats of the branches of the uterine artery. In 95 per cent. of the cases the condition was the result of pregnancy and subinvolution, quite frequently only one pregnancy having occurred. Pregnancy was invariably attended by an increase in the elastic tissue in the arterial coats, but when subinvolution occurred the increase of elastic tissue was enormous and very largely replaced the muscle coats, so that the blood-vessels no longer were able to contract and control the amount of blood flowing through them. The very great thickness of the uterine wall which was found invariably in chronic metritis was due partly to a persistence of the increased muscle and fibrous hypertrophy of pregnancy, but much more to an actual post-puerperal hypertrophy of these tissues. Formerly it was thought that this increased thickness was due to fibrous tissue overgrowth only; this was now known to be erroneous, as the fibrous and muscular tissue occurred in chronic metritis in their usual relative proportions. The cause of this hypertrophy was probably the result of the loss of control in the uterine arteries owing to their degenerate walls. When the vessels could no longer control the circulation the uterine muscle, by its contractile efforts, attempted to keep up this control, and in these unusual efforts gradually hypertrophied. Circulatory control was moderately good for a time, but as there was a limit beyond which hypertrophy could not go, after a time the circulatory control broke down. The result was chronic over-filling of the distensible uterine vessels and subsequent excessive hæmorrhage at menstruation. This blood loss was not only excessive, but prolonged, often lasting many weeks, the normal mechanism by which menstrual hæmorrhage was stopped being feeble or in abeyance. Chronic metritis only caused excessive *menstrual* loss; once the menopause had occurred, chronic metritis never caused hæmorrhage and ceased to be of any importance. Usually the menorrhagia of chronic metritis began after the age of 40, or even later as the time of the menopause approached. In a minor degree, however, this symptom might occur in younger women. Chronic metritis was one of the common affections causing prolonged hæmorrhage at or about the menopause, and consequently must be diagnosed from carcinoma of the cervix, carcinoma of the body of the uterus, submucous fibroids, fibroid polypi, mucous polypi, &c. Apart from cancer of the cervix and obvious polypi, the diagnosis could not be made except by dilatation and exploratory curettage of the uterus, especially to exclude carcinoma of the body of the uterus. As the endometrium was usually not thickened in the subinvolution type of chronic metritis, the curette brought away practically nothing, whereas in the so-called endometritis gelatinous strips of thickened mucosa were removed, and in carcinoma cheesy masses were obtained. Once the diagnosis of chronic metritis was made the choice of treatment lay between radium, X rays, and hysterectomy. Radium applied *inside* the uterus after dilatation would usually bring about a cessation of menstruation and consequently cure the one important symptom, but it left

an unhealthy organ, and time alone would show whether there was any increased liability to carcinoma in a uterus thus treated. X rays would bring about the same result, but the treatment was more irksome than a single radium application. Hysterectomy was the ideal treatment as it removed the unhealthy organ, and was especially indicated in cases where chronic metritis was complicated by old lacerations and hypertrophy of the cervix. Hysterectomy carried out by the vaginal route for chronic metritis was an extremely satisfactory operation, attended by few of the discomforts of an abdominal operation and by a mortality which was smaller than that of abdominal hysterectomy was ever likely to be.

Sir William Willcox then gave a discourse on the

Toxic Factor in Disease.

He said that the paramount importance of toxæmia in diseases where the organism causing the disease was known would not be disputed. For example, in the septicæmias of streptococcal or staphylococcal origin, in the typhoid group of diseases, in pneumonia, &c., the causal organism could be readily isolated from the blood and undoubtedly produced the toxic effects present. Other examples were diphtheria, tuberculosis, and the protozoal diseases such as malaria and including syphilis. A large number of diseases were met with in medical practice the exact causation of which was less clearly known. These diseases formed the bulk of the "common ailments." The evidence of recent medical research pointed most strongly to a toxic factor as being the chief, if not the sole, cause of many of these diseases. For example, the various manifestations of fibrositis in which should be included the different types of arthritis, the various forms of perineuritis such as sciatica, brachial neuritis, &c., inflammatory conditions of aponeuroses (muscular rheumatism), tendons, and ligaments were due undoubtedly to a toxic cause. The toxic factor in disease, he said, was probably more appreciated in this country than in any other, and this was largely due to the work of Sir Almroth Wright and his co-workers.

In discussing the cause of the toxæmia, the lecturer said that in most cases a local focus of infection could be found, and the great importance of searching for it could not be too strongly urged. The teeth should be examined clinically and also by means of X rays. Often apical periodontal disease was present when to the naked eye the teeth appeared healthy. The tonsils, naso-pharynx, antra, and accessory sinuses should be submitted to expert examination and if necessary to radiographic examinations. The colon should be submitted to a bacterial examination of its washings, and the urine bacteriologically examined. The treatment of the disease should commence with the treatment of the local focus of infection, and where possible, as in the case of infected teeth, tonsils, or antra, this should be dealt with by surgical measures. Vaccine therapy was only of value when the local focus of infection had been eradicated or adequately treated. Secondary infections from an original primary focus must always be borne in mind. For example, arthritis might result from dental sepsis or infected tonsils, and unless these primary foci were dealt with early, a secondary infection of the colon was very likely to occur. A secondary infection rendered the treatment of the toxic factor more difficult.

Sensitisation to idiopathic protein poisons was well known, as, for example, the susceptibility of certain persons to minute doses of pollen protein in hay fever. There appeared to be little doubt but that sensitisation to a bacterial poison was the cause of certain common diseases. For example, asthma might be caused by bacterial infections of the naso-pharynx or respiratory tract. Gout in some cases was caused by the bacterial infection arising from teeth or bowel. In cases where the disease was due to sensitisation to a bacterial poison, it was of prime importance that any focus of infection should be dealt with, and if this could be removed or adequately treated improvement was sure to follow. Vaccine treatment in cases of sensitisation was often contra-indicated, and if used only very minute doses should be cautiously given. In the examination and treatment of diseases the exact cause of which was unknown, it was certain that a toxic factor could in most cases be looked for with great hope of success, and when found the line of successful treatment was clearly indicated.

Colonic Toxæmia and its Medical Treatment.

Dr. REGINALD MILLER defined colonic toxæmia as a condition of ill-health arising from the absorption of poison from the lower bowel in persons who showed no gross intestinal disease. He regarded the term "intestinal stasis" for this disorder as an unhappy one in that stasis might exist without toxæmia and toxæmia without stasis. No merely mechanical explanation was satisfactory, and the essential factor to be considered was the state of the bowel wall. Where the colon remained healthy no absorption occurred, but where the wall of the colon became inflamed its impermeability was lost and ill-health resulted. The catarrh of the colon in some cases resulted from an acute infection or food-poisoning, but in the majority of cases it was set up by prolonged constipation. In these it was probable that fæcal decomposition occurred, producing irritant poisons which inflamed the wall of the colon. The symptoms of the complaint were numerous and often overshadowed by the general picture of neurasthenia. The symptoms of colonic discomfort had to be carefully appreciated and their characteristics were described. The stools were usually either hard and constipated or liquid and foul. They did not always contain obvious mucus until the bowel was washed out. Gastric symptoms might be superadded. Very little help was obtained from bacteriology; the most frequent alteration was a diminution in the numbers of *B. coli* and an increase in streptococci. There was no evidence in the majority of cases of an infection being at work. In addition to the abdominal symptoms there was a rather characteristic fatigue, physical and mental, associated with headaches, nervous symptoms, muscular pains, especially "lumbago."

The chief factor in the treatment of all but the mildest cases was by means of Plombières douches for the colon. It was, unfortunately, not true that anyone could give this treatment correctly, nor was it easy to give it at home or even in nursing homes. The secret of it was the high and even pressure with which the Plombières water was introduced. A course of 8 or 12 treatments was generally necessary, but improvement was usually quickly observed. The question of aperients was a difficult one, but a great step forward had been taken since the introduction of preparations of bile, such as "Taxol" tablets. These did not produce any irritation of the colon, and the stool resulting from their use was formed instead of the more toxic liquid variety. The use of small injections of cold olive oil was most valuable in cases of great tenderness or severe constipation. Diet and rest had also to be considered.

Dr. A. Hope Gosse spoke on

Common Cardiac Irregularities.

He said that while graphic methods had made the diagnosis of cardiac irregularities more exact, these methods could frequently be omitted without sacrifice to the precision of diagnosis. He then dealt in some detail with various types of irregularity. *Sinus arrhythmia* was the youthful type of irregularity and tended to disappear in adults. The pulse-rate was slow and the rhythm faster with inspiration, slowing down with expiration; while the breath was held the rhythm was regular. This condition was observed during convalescence after acute infections when the pulse was slow. *Premature contractions* represented the commonest type of irregularity in adults, and might be called the adult type of irregularity. The rhythm varied from minute to minute, hour to hour, and day to day. Irregular beat occurred: (*a*) every alternate beat, (*b*) every fourth

or eighth beat, (*c*) as an isolated beat, (*d*) with varying frequency. Premature contractions increased in frequency with increasing age. With the finger one might detect a small beat at the wrist or there was an apparent pause, while with the stethoscope the first and second sounds of premature beat were heard at the apex. Exercise diminished the irregularity by quickening the pulse-rate. The condition was attributable to errors of digestion, excess of tobacco or alcohol, or toxic causes, and its presence or absence in a patient did not affect prognosis. *Auricular fibrillation* was the commonest form of severe heart disease. Here the pulse was continuously irregular, and exercise exaggerated the irregularity by quickening the pulse-rate. The size of the beat varied without much relation to length of the preceding pause, nor was there any relation to respiration. When the rate was very rapid many beats (even 30 or 40 per minute) were imperceptible at the wrists, but this error could be avoided by counting by auscultation. If mitral stenosis was also present the murmur at the apex was diastolic in time. The heart was increased in size. The modes of onset of auricular fibrillation were as follows: (*a*) premature contractions might precede; (*b*) a single paroxysm followed by years of regular rhythm; (*c*) frequent paroxysms and of varying duration; (*d*) auricular flutter might precede; (*e*) first attack might persist for life. The prognosis depended on the response to effort, on the size of the heart, presence or absence of valvular disease, on pulse-rate, and on the amount of digitalis required to control the rate. Treatment consisted in rest and quinidine in the early stages, followed by rest and digitalis in the later stages. *Auricular flutter* was much less common than fibrillation and comparatively unstable. In this condition the normal rhythm returned or fibrillation developed. The auricular rate was about 320 per minute with a ventricular rate half or a quarter of this. When the patient is recumbent the raising of one limb might double the ventricular rate. There was no respiratory variation in rhythm, and the rate never gradually slowed down. Digitalis frequently changed this rhythm into fibrillation and later to a normal rhythm. The treatment was similar to that for fibrillation. *Heart-block* could be divided into three degrees: (*a*) delayed conductivity, (*b*) with dropped beats, (*c*) complete. All degrees were met with in the acute and chronic form. The degree (*a*) could only be recognised clinically by a mid-diastolic murmur at apex due to mitral stenosis, while the degree (*b*) could be recognised by a pause in the pulse at the wrist and a pause, equal to two beats, in the sounds at the apex. Pyrexia might be present. The degree (*c*) could be recognised by the very slow ventricular rate—less than 35 beats per minute. The chief symptoms of heart-block occurred when a partial block changed to a complete block. When ventricle paused for: (*a*) six seconds there was syncope; (*b*) 12 seconds, twitchings; (*c*) 18 seconds, convulsions. Treatment consisted in administering pot. iod. in full doses, both in syphilitic and other forms, while atropine diminished the number of "fits" when these were frequent. The prognosis was good if the condition was acute; if chronic the patient might have several years of useful life. *Pulsus alternans* was a condition in which there were alternately large and small beats equally spaced, but the finger often not sufficiently sensitive to detect it. Alternation was more obvious after premature contraction and the patient was of arterio-sclerotic age. The outstanding symptom was dyspnœa. The heart was enlarged, and albumin was present sooner or later. Angina only rarely occurred. The prognosis was very grave; it was extremely rare for a patient to survive two years. Treatment consisted in rest and digitalis, but intolerance was often present. Dr. Gosse said that the study of the arrhythmias was of increasing interest with increasing experience, and in no other branch of medicine was diagnosis more exact than in that of the irregular pulse. Some typical electrocardiograms, to illustrate the lecturer's points, were shown.

(To be concluded.)

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

An Unknown Disease Among Fishermen.

A PECULIAR epidemic has broken out among the fishermen of the Kurisches Haff, a bay in Eastern Prussia. The disease begins with symptoms of general weakness and severe pains in the muscles, which overtake the fishermen during their work, and soon a rigidity of the muscles appears which renders movement impossible. The disease develops, as a rule, in the early morning when the air is misty, but sometimes also when the fishers have come home. Anglers become more frequently ill than net fishermen, and of two fishers in a boat the man who takes up the fishing line falls ill, whilst the man at the helm is not affected. Hitherto 300 cases have been notified with 3 deaths. Only fishermen and people working in the neighbourhood of the bay caught the disease; the peasants have been immune. In some places also dogs, cats, geese, and ducks have died from it. Investigations carried out in the Hygienic Institute of Königsberg University and in the Koch Institute at Berlin have produced no result. The Health Office has accordingly sent Prof. Lentz to the scene of the epidemic for special investigation. He states that a similar epidemic has never been observed, and its cause has not yet been ascertained. It is, however, very likely that the disease is not caused by parasites, but by a poison contained in the water of the bay. It is not unlikely that the agent of the disease is a gaseous poison inhaled by the fishers. Prof. Lentz is of the opinion that the symptoms bear some resemblance to poisoning by hydrides of arsenic or phosphorus, although they less frequently lead to a fatal issue. The water of the bay is indeed spoiled by the waste water from the cellulose factories of Königsberg containing concentrated sulphides of potassium. The fishermen have drawn attention to the fact that the algæ of the bay have this year flowered for the first time in many years, and that they have afterwards shown a fermentation with a pungent odour, especially in the morning hours. The fishermen, very poor people, are badly affected by the epidemic; they are afraid of sailing to the bay lest they become ill again and customers decline to buy the fish, although nobody has become ill from eating it.

Inaccurate Death Certificates.

The Statistical Office has drawn the attention of the medical profession to the fact that in the certificates of death of elderly people very frequently exhaustion, inanition, marasmus, debility, &c., are stated as cause of death. The office has reason to believe that at least a part of those deaths is due to starvation as a sequel of financial breakdown. It has been observed that medical men have used the above rather indefinite terms in cases of death by starvation out of regard for the family of the deceased; through a special inquiry into the circumstances the true cause of death was then ascertained. Certificates of death are, according to the statements of the office, sometimes inaccurate in other cases as well. Cardiac weakness, general debility, and other diagnoses of that kind ought to be avoided as much as possible and more accurate terms used. In cases of cancer, tuberculosis, and venereal diseases, not only the disease itself, but also the organ which was the seat of the disease, ought to be mentioned in the certificate. If the death is connected with pregnancy, delivery, or abortion, this fact must be mentioned. Accurate statistical records are of great importance because they enable the government to take measures of prevention and to combat certain diseases.

Treatment of General Paralysis by Recurrens Spirillum.

It has been established that treatment of general paralysis may be carried out not only by injections of malaria germs as devised by Prof. Wagner-Jauregg (some results of which I described in my letter of

Sept. 6th), but also by injections of the spirochæte of Obermeier. Before the Medical Society of Jena Dr. Bioning gave a report of the results obtained in the clinic for mental diseases of that university. In 5 out of 30 cases where injections had been performed, a complete remission had taken place, so that the patients were able to work again with, at the most, only slight psychical defects. In four cases remission was incomplete as psychical defects remained, although the patients had become able to do easy work and behaved apparently quite normally. In 8 cases no improvement was obtained, and 13 cases died. The high death-rate was not caused by the injection, as many of the patients were in an advanced stage of the disease and died from the ordinary complications of general paralysis. In 3 cases only could the treatment be regarded as the cause of death. The after-treatment consisted in injections of neosalvarsan. Cases treated in the initial stages of the disease and those showing maniacal symptoms gave the best results.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Approaching Hygienic Congress in Paris.

THE eleventh hygienic congress, organised by the Society of Public Medicine, will be opened on Oct. 21st in the large amphitheatre of the Pasteur Institute, under the presidency of the Minister of Public Instruction and of the Minister of Labour and Hygiene. The question of instruction on hygiene will be considered in full. Dr. Bequidt will deal with the teaching of hygiene in France and Dr. Léon Bernard with the problem as it is met abroad—in the primary and secondary schools, in technical colleges, in military schools, and in the various medical schools. Dr. Humbert, who is at the head of the Section of Hygiene of the League of Red Cross Societies, will describe the rôle which the Red Cross plays in different countries in imparting hygienic instruction in primary schools. Dr. Salmon will speak on the protection of public health in England, particularly with regard to child welfare and the teaching of practical hygiene (considerations which arose through the interchange of sanitary experts with Great Britain in March and April of this year). Madame Montreuil-Strauss will tackle the delicate question of the possibility of giving hygienic sexual instruction to young girls in France. Several communications, together with a report by Dr. Diénert, will be made on the purification of waste water (chemical purification, biological purification, spraying, activated sludge, &c.). The final item on the programme of the congress will be an excursion to Rheims on Oct. 24th.

Sunday Closing of Chemists' Shops.

The Prefect of Police has recently decreed the total closing of chemists' shops in the whole district covered by the department of the Seine. A roster has been drawn up to indicate the chemists' shops which, in rotation, will remain open on Sundays to deal with emergency demands. The roster will be changed every three months. Chemists whose shops are closed on Sundays will be obliged to exhibit prominently in their windows a legible placard setting forth the names and addresses of their nearest colleagues who are carrying out the emergency services on any particular Sunday. This decree has raised much protest both from the public and from the many chemists who preferred the old system, by which there existed a personal "entente" between the apothecaries in each district, whereby an adequate Sunday service was provided through mutual agreement. The Parisian Pharmaceutical Syndicate and the Syndicate of the great French chemists denounce this new system of rotation. In their opinion rotational service will not meet the many and varied needs of the Parisian populace. The system is entirely arbitrary, and is organised on an artificial basis; consequently it cannot mould itself to requirements which in one district are totally different from those in another, or even vary from the boulevard to the street round the corner. It would seem to be a dangerous expedient to compel the public, at the beginning of the winter season, to seek out far-distant chemists on a Sunday under the pretext of fairness to all.

Doctors' Social Clubs.

Medical men who reside in Paris but are not natives of the capital are fond of grouping themselves into little social clubs, according to the district of their birth. These societies exist purely to maintain friendly relations with "compatriots," and give an excellent pretext for more or less frequent banquets. Some of these societies bear such titles as the Amicale des Médecins de Bretagne, the Société des Médecins Toulousains, l'Union Médicale Franc Courtoise, and the Nord Médical, whose members all hail from the North of France, the Pas de Calais, the Somme, the Aisne, and the Ardennes. A new society, whose possibilities have hitherto been neglected, has just been called into being, and it is that of the "Médecins Parisiens de Paris." Prof. Charles Richet is the honorary president, and at the inaugural meeting he pointed out how happy and opportune was the foundation of such a society. "Does there exist a more lonely man," he said, "than the true Parisian in his native city? On every side he sees his fellows united together by the ties of their local church bells, while he has no bond of union with those who claim Paris as their mother."

Among the doctors' clubs, where the profession alone is the binding link, may be mentioned the "Orchestre Médical," which was in existence before the war, and which has lately been reorganised. Membership is extended to all medical men, their families, and to students who perform on some musical instrument. Rehearsals are held twice a month in the headquarters of the Association Générale des Etudiants, and several excellent concerts have already been given. Medical men who cultivate the arts of sculpture, painting, and engraving have also their society, which this year held its fourth successful exhibition.

Antityphoid Vaccination in the Civil Service.

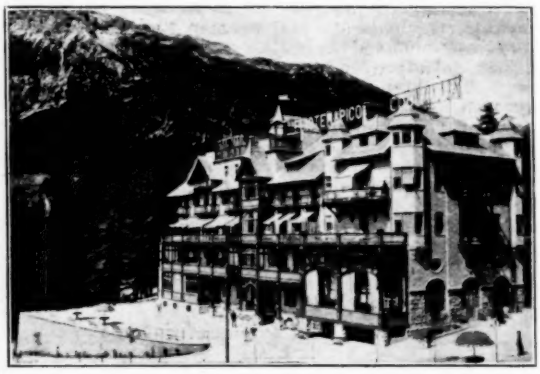
The excellent results obtained in the army by antityphoid vaccination are well known, and since the war it has been observed that the immunity conferred by the vaccine has remained effective for lengthy periods. The male population of the country who were mobilised and underwent inoculation is much less affected with typhoid to-day than are the women and children. Out of 621 cases, 145 were men, compared to 476 women and children. Several public services, in particular the Administration Général de l'Assistance Publique of Paris, have already made vaccination compulsory for certain of their employees. The public, no less than the services, ought to have recourse to this vaccination, in order still further to reduce the death-rate from typhoid fever, which has declined to 0·7 per 100,000 in 1923 from 5 per 100,000 in 1918. Mr. Louis Mourier recently introduced a Bill in the Chamber of Deputies to render antityphoid vaccination compulsory to all entrants for the civil services, both local and general. It is not easy, he said, to stimulate individual interest on the question, and therefore it behoves the law to deal with the matter as far as the public services are concerned, for it is the social duty of public servants to assist in the suppression of typhoid by themselves being vaccinated. The Bill contains the two following clauses: (1) As from the date when this Bill comes into effect, every candidate for the public service of the State, of the department, or of the Commune must prove that he has been subjected to antityphoid vaccination; (2) accepted candidates cannot be exempted from vaccination without a medical certificate setting forth the reason for such exemption.

BRITISH ORTHOPÆDIC ASSOCIATION.

MEETING AT BOLOGNA, ITALY.

LAST year the British Orthopædic Association held a meeting in Holland, at the invitation of Dr. Murk Jansen at Leyden; and a joint meeting at Amsterdam in conjunction with the Dutch Orthopædic Association. The innovation thus made was so much appreciated by the members who attended that it was decided to hold another continental meeting this year. At the invitation of Prof. Victor Putti of Bologna, some 50 members and guests visited that ancient city and seat of learning on Monday, Sept. 22nd, to hold a meeting at the Rizzoli Orthopædic Institute, of which Prof. Putti is director. This institution was founded by a well-to-do and charitable citizen of Bologna, in whose memory the Via Rizzoli has been renamed, and it is housed in the splendid buildings of the old Monastery of San Michele-in-Bosco, which stand on a well-wooded hill, a short tram ride from the centre of the city. The buildings, which were erected in the sixteenth century, contain a splendid vaulted corridor of great width and height and nearly 500 feet in length, upon which some of the wards—formerly monks' cells—open. The gem of the monastery is the Aula Maggiore, now used as the library, a noble room of fine proportions decorated with beautiful frescoes. In the operating theatre Prof. Putti gave a demonstration of the reduction and plaster treatment of congenital dislocation of the hip. This deformity is extraordinarily common in northern Italy, for at this institution more than 400 cases are treated annually, while at Milan Prof. Galeazzi treats at least 500 in a year. The excessive liability of female infants to this condition is as marked in Italy as in England and other countries.

The visitors were much interested to see in the wards some quite small children, whose first plaster-of-Paris splints had been removed, exercising their own hips by means of pulleys under the supervision of nurses. This proceeding helps in the development of the acetabulum, prevents stiffness, and incidentally gives the patients some muscular exercise. Prof. Putti also exhibited a very interesting series of radiographs of congenital dislocation before and some years after reduction, in which the various degrees of development of the iliac portion of the acetabulum were well shown. After al fresco lunch in the beautiful grounds of the institute a visit was paid to the extensive workshops, in which all kinds of appliances and apparatus used in orthopædic work are made. The elaborate and ingenious table used for the treatment of fractures and dislocations was examined with much interest. Those who have seen the scamnum of Hippocrates, recently imported from Italy to the Wellcome Museum, must have reflected on the advance made on that primitive appliance, which nevertheless contained in embryo the root idea of all fracture tables. In these workshops appliances and artificial limbs are made for hospitals and practitioners in all parts of Italy. A very complete illustrated catalogue makes it easy for practitioners at a distance to select the appliances which they wish to order.



The Codivilla Heliotherapeutic Institute.

In the evening the annual dinner of the Association took place in the Hotel Baglioni, with the President,

SOME MEMBERS OF THE PARTY.

In the foreground, left, is Prof. Putti. Among the visitors are, reading from left to right: Miss Forester Brown, Mr. Thurstan Holland, Mr. W. Rowley Bristow (Hon. Treasurer of the Association), Mr. H. A. T. Fairbank, Prof. P. Heglund (Stockholm), Sir Robert Jones, Mr. C. Max Page, Prof. E. W. Hey Groves, Dr. Murk Jansen (Leyden), Mr. Harry Platt, Mr. Muirhead Little, Mr. R. C. Elmslie (Hon. Secretary of the Association), Mr. F. C. Pybus (in foreground), Mr. E. J. Blackett, Prof. D. P. D. Wilkie, and Prof. A. Calvé, of Berck-Plage (extreme right).

Sir Robert Jones, in the chair. More than 50 members, ladies, and guests were present.

On the second day Prof. Putti performed three typical operations—an arthroplasty of the knee by his well-known method, a tendon transfer operation for partial palsy of the foot and ankle muscles, and an open operation for congenital dislocation of the hip. Prof. Putti's skilful technique and neatness and quickness are supplemented by excellently organised team-work by his assistants. Some of his results in arthroplasty of the knee were shown by Prof. Putti at the meeting of the International Society of Surgery in London last year. The operation consists essentially of the partial resection of the joint, which should be neither too extensive nor too sparing, and the exact adjustment of the articular surfaces by means of gouges and files. The raw bony surfaces are then covered by free flaps of fascia lata, sewn into position, and the joint reconstructed by careful suture of the muscles, &c.[1] The method has been fully described in the journal *La Chirurgia degli Organi di Movimento*, but in London it was, of course, impracticable to show the actual technique on which so much of the success of the operation depends. Prof. Putti has operated on some 200 cases by his method, of which 60 were of stiff knee, and the rest of the lower jaw, the elbow, hip, fingers, and other joints.

After hearing an address on the history of the University of Bologna delivered by Prof. Putti in the beautiful old anatomical theatre of the Archiginnasio, and enjoying his hospitality at dinner, the party set out early on the next morning by train to Mestre, and thence by motor-cars through Theviso, Belluno, and the Paive Valley to Cortina d'Ampezzo in the Dolomite country, in order to inspect the Codivilla Heliotherapeutic Institute for Surgical Tuberculosis. This Institution commemorates in its name the predecessor of Putti in the directorate of the Istituto Rizzoli. Before the war it was a hotel, and has now been converted into an excellent hospital. It is situated over 4000 feet above the sea, facing due south, with high Dolomite mountains to the north and at the sides of the valley, but not so placed as to obstruct the full effect of the sun's rays. It was opened in January last with 100 beds, 50 of which are at present occupied. Patients are brought from Bologna by ordinary train and narrow-gauge railway with one change, necessary owing to the break of gauge. Here treatment as at Leysin is carried out on cases of surgical tuberculosis. In the winter bed-ridden patients are exposed to the sunshine as long as the temperature is not below +8° C. (=46° F.), while ambulant cases play about naked in the snow in temperatures as low as −10° C. (=18° below freezing point Fahrenheit). In dull weather the mercury-vapour quartz lamp is used. A careful study is being made of the local meteorology and of other conditions effecting cure. Prof. Putti pointed out as one of the problems needing solution the occurrence of cases which do well in high altitudes and badly on the sea coast, and of others of which the converse is true, although clinically no difference may be detected in the type of case.

Several interesting and memorable excursions were made by the visitors among the scenic beauties of the Dolomites.

[1] THE LANCET, 1923, ii., 171.

SOCIETY FOR THE STUDY OF INEBRIETY.—At a meeting to be held in the rooms of the Medical Society of London, 11, Chandos-street, London, W., on Tuesday, Oct. 14th, at 4 P.M., Prof. W. E. Dixon, F.R.S., will open a discussion on Cocaine Addiction.

STREET NOISES IN MANCHESTER.—The Manchester Watch Committee have decided to issue a warning to motor-cyclists to the effect that the nuisances created by the absence of or the failure to use silencers on their machines, and by opening the throttles to accelerate speed, must cease at once. In future all offenders within the Manchester boundaries are to be prosecuted. A large number of complaints have been received by the police, especially at week-ends.

MATERNAL MORTALITY.

CONFERENCE AT THE ROYAL SOCIETY OF ARTS.

A CONFERENCE organised by the Post-Certificate School, on the Means of Reducing the Maternal Mortality-rate by the Coöperation of all the Health Services, took place at the Royal Society of Arts on Oct. 6th. The chair was occupied by Dr. J. S. Fairbairn, who opened the proceedings by reading two letters, one from Mr. Wheatley, Minister of Health, the other from Sir Francis Champneys, who emphasised the importance of tracing all persons who had to do with a patient, especially as to who delivered her, and the need for cordial coöperation between all who have to deal with the patient.

Right Method in Antenatal Care.

Mr. Aleck Bourne, who opened this subject, said that need for antenatal examination and interview of every pregnant woman was agreed upon by everybody with any knowledge of modern obstetrics. When it was realised that the vast majority of all the dangers and disasters of midwifery were preventable by examination and correction during pregnancy, no further justification was required. Women themselves seldom offer any objection to being examined, in fact, they are beginning to expect it, and express surprise when it is neglected. So important is the matter of detection and elimination of possible difficulties in confinement that it is justifiable to refuse attendance or admission to a hospital of a woman who will not submit to antenatal examination. In addition to the routine examination of private patients it is essential to organise facilities on a wide scale. These may take the form of:—

(*a*) Centres or clinics established ad hoc, and run by paid part- or full-time officers.

(*b*) Establishment of an antenatal out-patients' department in all big voluntary hospitals in connexion with their in-patients' maternity wards. There would be three classes of patient: (1) those booked for admission to the wards for their forthcoming confinement; (2) those to be attended in their own homes by the students or pupil midwives of the hospital; (3) those referred by practitioners for an opinion in cases of suspected difficulty. This third type of patient is the one to be encouraged. It is important to try to establish the hospital clinics as consultative centres which shall gain the confidence of local practitioners and midwives. They should feel that they will have an opinion and necessary guidance from a specialist in the subject. Great care should be taken to foster the use of the hospital clinics by doctors and practising midwives by such simple courtesies as sending the patient back with an explanatory letter.

(*c*) The smaller country hospitals should similarly develop their own local antenatal clinics, meeting at a definite day and time known to all the local doctors and midwives. It is essential that these cottage hospitals clinics should be staffed by a doctor who has taken the trouble to learn the system by visits paid to a lying-in hospital and who has earned the confidence of his local colleagues by his special knowledge of obstetrics. Similarly, the urban antenatal centres should be staffed by medical officers who have had some real instruction and experience in antenatal work, and appointing bodies should demand evidence of such experience before selecting the candidate. A thorough-going antenatal organisation would ensure the examination of every pregnant woman and detection of a vast proportion of abnormalities which, while potent causes of disaster in labour, would be rendered harmless by suitable treatment or correction.

Midwives, Trained and Untrained.

Dr. J. W. Wayte underlined the importance of the trained midwife as the chief lieutenant of the general practitioner, adding that the presence of under-trained and inexperienced midwives is a source of weakness to the otherwise well-laid foundations of the services of

the practitioner and the local supervising authorities. Dr. Wayte pointed out that the practitioner only books a third of the number of confinements he formerly attended in the course of the year, and in consequence the work has passed largely out of the hands of a skilled practitioner into those of the relatively less skilled practitioner—the midwife. Moreover, a great diminution of individual experience of the general practitioner is caused by two-thirds of his cases now being divided amongst a number of midwives. After paying a tribute to the excellence of the trained midwife, Dr. Wayte said that though there are times when the doctor is tempted to interfere too soon and hurry a delivery, since he has the power and ability to apply forceps, and that this may be an error of judgment, a misapplication of skill, and certainly a predisposing cause of sepsis, possibly death, as a matter of fact, nowadays the opposite state of affairs obtains and death is more often caused by interference being left too late. Perhaps the doctor is at fault, perhaps the midwife, but only too frequently it is because the two do not work together. Dr. Wayte's opinion of the ideal future method of conducting a birth is always to have both doctor and midwife available, not necessarily both present, but both available with mutual confidence. He admitted that the objection to this ideal was the general lack of money and the temptation to dispense with the services of a medical man as more midwives were available. He also predicted that in the near future, when the midwife has essentially longer training of a full year, she may ask rather larger fees. The solution offered by Dr. Wayte to the above difficulties was that local authorities should be asked to provide more beds in institutions, staffed by skilled midwives with a visiting medical staff and available for those very vital emergencies of general practice which need experience and skill. After stating that yeoman service had already been done in this direction and many maternal and infant deaths averted, Dr. Wayte concluded by saying that he would have liked to have compared and contrasted mortality in primiparæ and multiparæ—the different causes and consequences in the two states, a question which the practitioner and midwife should be technically qualified to discuss.

Rôle of the Supervising Authority.

Dr. E. F. Palgrave, speaking his personal views, outlined the rôle of the supervising authority in relation to the doctor, the midwife, the handy woman, the patient, and corporate bodies. In relation to the doctor, he said he would like to see the authority given power to pay special fees in special cases when the doctor's attendance would be given free to the patient. He emphasised the importance of friendliness and close coöperation with the midwife, and said that inspection was no good without instruction. More formal instruction was necessary and should be at the service of the midwife to keep her up to date. The L.C.C. this autumn, in addition to usual courses of lectures to midwives, are giving special courses of antenatal demonstrations in six lectures by the best teachers. In regard to the handy woman, Dr. Palgrave said that if she must be recognised as a necessity she should be under some kind of supervision and both registered and inspected, as there was no hope for improvement till she was under control. In regard to the corporate bodies (Ministry of Health, C.M.B., General Medical Council, sanitary authorities, hospitals), Dr. Palgrave suggested the formation of a round-table conference between the local authorities and the C.M.B., as he believed that by means of open discussion many deaths could be averted.

Provision by the Poor-law.

Dr. E. W. G. Masterman (St. Giles's Hospital) gave an interesting account of the provision for expectant and lying-in mothers under the Poor-law, pointing out that housing difficulties since the war have caused respectable married women to have their confinements in Poor-law institutions. Among recent developments mentioned were the admission of patients without the intervention of relieving officers, admission as "municipal council cases" of (*a*) those with deficient housing accommodation, (*b*) those needing special surgical treatment. A separate maternity home with separate entrance has been carved out of the workhouse. In Bradford 500 maternity cases are treated annually. In London area the North Middlesex Hospital caters for Tottenham, Enfield, Edmonton, and Hornsey. There are similar arrangements at Willesden and a scheme nearly ready at Hampstead. Dr. Masterman also spoke of the instruction now given to candidates for the C.M.B. among trained nurses, no less than 200 qualified nurses being yearly prepared in infirmaries in and around London. In St. Giles's Hospital eight candidates will be trained yearly, and at several Poor-law hospitals post-graduate lectures are organised by the London County Council.

The View of the General Public.

Mrs. Bruce Richmond, speaking on behalf of the public, said that the fact that more women died in childbirth in England than in Italy or other countries touched the Briton on a tender spot. Discussing different points in Dame Campbell's report, Mrs. Richmond laid stress on the different standard of aseptic care and personal cleanliness shown by attendants at a confinement, and thought that the doctor should be made responsible for any infringement of rules as much as the midwife. In considering antenatal care, she thought that blame for the trouble following this omission should be attached to the doctor or midwife, and that there should be a standard of efficiency at antenatal clinics to obviate variety in the value of advice given. The difficulty of obtaining antenatal care in scattered districts could only be solved by midwives attending normal cases with adequate medical advice available when needed. Mrs. Richmond strongly deprecated the employment of so dangerous a person as the "handy woman" and advocated her elimination, as well as that of the unqualified man practising midwifery, by an alteration in the Midwives Act. In order to attract better educated women to a profession, admittedly both strenuous and badly paid, Mrs. Richmond advised their being treated more as other professional women are treated, and given the honoured place they deserve. Public health authorities should show themselves more sympathetic towards midwives and never require them to disinfect at common cleansing stations or institute other rules than those of the Central Midwives Board, as no intelligent well-educated woman can keep herself up to date if her local authority dictates her working method. Mrs. Richmond also advised a reorganisation of health services to prevent overlapping. The midwife will, with additional training, be qualified to do her own health visiting with greater possibilities of influence gained by uniformity of advice. Where Dame Campbell urged available maternity beds for the poorest patients, Mrs. Richmond suggested a uniform method of inspection and standard of efficiency for all homes, municipal or private, and pointed to existing schemes giving relief, in the home or not, which neither limit the patient's freedom to choose their attendant nor subsidise particular midwives or homes to the detriment of others.

Education as the Solution.

Miss Liddiard (Mothercraft Training School) proposed education as the remedy for maternal mortality; education of the general public, men as well as women, through the medium of women's institutes, mothers' unions, men's clubs, and so forth. This education, she said, should be given to women of all classes, and the expectant mother should be taught the immense importance of general health on pregnancy, labour, ability to nurse her infant and give it the best start in life, as well as taught to demand antenatal supervision, examination, and urine-testing, &c. After this comes the education of the mother as to the right feeding and care of the child in order to prevent rickets, and the early education of the school-girl in the ideals of motherhood.

The Chairman, after summing up the keynote of the conference as coöperation, invited discussion from the audience.

Discussion.

Mrs. F. Stobart suggested that women's institutes should be asked to give regular courses of lectures all over the country wherever there was a demand for them.

Miss Olive Haydon (York Road Hospital) said that each case should be studied to decide if it is suitable to be handled by a midwife alone, that 90 per cent. of labour might be normal, a fact not widely enough known, and that if the midwife could not distinguish between normal and abnormal cases she should not practise. If the midwife were able to call in not only the general practitioner but the expert many lives would be saved.

Miss R. Paget (Queen Victoria's Jubilee Institute) said she would like to make two practical if controversial suggestions: (1) That a post-mortem examination by Government officials should be held on every woman who dies in childbirth, whether rich or poor. (2) That it should be a penal offence for any person not a doctor nor a midwife to examine a woman internally. Miss Paget agreed with Sir Francis Champneys as to the importance of stating who delivered the patient on the notification of birth certificate, and she added that the midwife needs good consultants and she should be inspected by whole-time, thoroughly well equipped inspectors, and should be qualified professionally, mentally, and personally. Such women should be encouraged to practise instead of wasting their training by taking up other better paid jobs. Miss Paget ended by advising that at every wedding the husband should be presented with a manual enjoining consideration for the health of wife and future children, a course also advocated by the next speaker, Mrs. Milligan, member of the Surrey County Council.

Miss Wilmeshurst said that lives were sometimes imperilled by the lack of coöperation between the inexperienced student and his assistants, and that the student should be trained to look on the midwife and trained nurse as his co-workers instead of regarding them as handy women.

Dr. Harold Scurfield noted that all speakers had insisted on antenatal work as crux of any life-saving programme, and pointed out that outside the London area practically no antenatal work worth the name was going on in the country districts. The work of midwifery in many districts is passing from the doctor to the midwife, who needs expert advice. He had come across lately many instances of unemployed yet fully trained women doctors, and he suggested that these surplus doctors would constitute a good service to come to the aid of the midwife if trained as obstetric specialists. In Liverpool 90 per cent. of the cases are delivered by midwives and only about 20 per cent. of them send for the doctor. There were not enough antenatal specialists throughout the country.

Dr. Elizabeth Macrory (Inspector of Midwives) said that prenatal examination should not only be made by a skilled person, but a doctor should be present, or if not the result should be communicated to him. She also said that the sanitary authorities might help to lessen mortality in cases where removal to hospital was not possible by the loan, to be paid for if possible, of a provision of sterilised towels, &c., and that some proof of obstetric experience beyond that of student qualification should be required of students sent out to take confinement cases; they should be accompanied by someone skilled in at least normal obstetrics and a consultant should be available.

Miss Elsie Hall pointed out that if skilled inspection throughout the country could be ensured it would improve the education of the midwife.

Miss Sparks (Middlesex Hospital) thought that the midwife should also be a trained nurse.

The Chairman, in summing up, said that all deaths in childbirth should be investigated by the local authority, and that examination should take place not when the patient has succumbed but at the beginning of puerperal fever.

THE LONDON MEDICAL EXHIBITION.

A REVIEW OF THE EXHIBITS.

AT the Medical Exhibition organised by the management of the Seventeenth International Congress of Medicine, 1913, and the Fifth Clinical Congress of Surgeons, 1914, in the Central Hall, Westminster, London, S.W., which opened on Oct. 6th and closes to-day (Friday), a most informative collection of drugs and appliances used in the art of medicine and surgery, organo-therapeutic, bacteriological and pharmaceutical remedies, electro-therapeutic apparatus, and many ancillary agencies, such as dietetics, and hospital and invalid furniture, were displayed. The medical man is essentially a student, but in these days progress is so rapid that even the attendance at post-graduate courses hardly suffices to keep the practitioner abreast of present-day treatment. An exhibition of this kind affords an opportunity to the busy practitioner to see the products and inventions which follow so closely on advances in treatment or technique, and to appreciate the labours of the various firms who, in response to the scientific requirements necessitated by research, administer to the needs of medicine and surgery. That the exhibition really fills a need is shown by the large number of medical men who visited it between the hours of noon and 6.30 P.M. each day, and by the keen interest which they took in the exhibits. In addition, the exhibition afforded an opportunity for friendly discussion and social intercourse, for which arrangements were made by the organisers, while the presence of many foreign and overseas visitors, some 300 of the latter having applied for tickets, showed the wide appeal of this display of scientific medicine and surgery.

Many of the exhibits have already received attention in our columns, and for the convenience of readers we append at the end of this article a reference to our pages where more recent notices of interesting or noteworthy products or inventions have appeared.

The overlapping by many of the firms of medical and surgical exhibits, and the many adjuvants to both branches, make it impossible in describing the exhibition to adopt any scientific classification, but for convenience we take as main headings Drugs and Foods, Instruments and Appliances, Milk and Its Preparations, Spas and Waters, and Medical Books.

Drugs and Foods.

One of the first exhibits that caught the eye of the visitor was that of ALLEN AND HANBURYS, LTD. (37, Lombard-street, E.C., 7, Vere-street, W., and 48, Wigmore-street, W.), with its sections of pharmaceutical products, organo-therapeutic products, and surgical instruments. A prominent display is made of "Osmo" Kaolin,[1] a specially purified kaolin prepared by electro-osmosis, which has proved useful in the treatment of toxæmias of intestinal origin. Liquid extract of ergot, containing a standardised proportion of physiologically active constituents of ergot, was another preparation which attracted many visitors, as did also Saccharomycin, an isothermal, isotonic, and living yeast, which is supplied in fluid form in sterilised ampoules of 1 c.cm. for oral administration. Organic antimony compounds, which have been used with success in the treatment of tropical disorders, were also prominently exhibited, as well as this firm's foods for infants, Bynol and Bynotone,[2] Diabetic Flour,[3] and its preparations.—The varied products of the firm of BURROUGHS, WELLCOME AND CO. (Snow Hill Buildings, E.C.) were prominently displayed and were the centre of constant inquiries. A prominent feature of the stand was "Tabloid" Hypodermic Insulin Hydrochloride (Sterile), which is convenient to administer, readily portable, and may be dissolved within the syringe. The "Soloid" Urine-Sugar Test Case, which was also shown, is designed further to facilitate the examination of diabetic urine. This small portable case contains all the essentials for the quantitative determination of sugar. "Soloid" Benedict Test supplies a simple method of performing this delicate test. Among gland products was Parathyroid [4] and the Wellcome Sera and Vaccines, produced at the Wellcome

Physiological Research Laboratories, were also shown, as well as "Ethidol," a colourless, non-irritating liquid, containing 20 per cent. of iodine, for intraglandular injections and inunction. The external use of "Ethidol" in conjunction with the internal use of Iodicin enables the iodides to be intensively exhibited. Chemicals and Soloid products were exhibited in large variety, and interest was shown in the Tabloid medical equipments and first-aid outfits with which American and British airmen were equipped in the recent round the world flights.—BOOTS PURE DRUG COMPANY, LTD. (Nottingham), showed a comprehensive display of synthetic and medicinal chemicals, compressed drugs and tablets suitable for rapid solution of drugs for external application, &c., pharmaceutical preparations, and so forth. All these are manufactured under rigid analytical control conditions, thus ensuring definite therapeutic action. Among arsenical preparations was Stabilarsan.[5] Dressings and sundries formed another section of this characteristic exhibit, which enabled inquirers to select for immediate or future use almost everything that a medical practitioner may require in general practice. Insulin was a special feature of this exhibit and practical demonstrations of MacLean's apparatus for blood-sugar estimations were given.—A particularly interesting exhibit was that of the ANGLO-FRENCH DRUG CO., LTD (238A, Gray's Inn-road, W.C.), who had a wide display of pharmaceutical preparations, including Dimol, an intestinal disinfectant in the ordinary form of pulverettes and syrup, as well as in the new forms of dentifrice, ointment, and pastilles. Cardibaine,[6] known in France as Ouabaine, a chemically pure crystallised strophanthin, and Digibaine,[6] an association of strophanthin and digitalin, were also shown, and a large number of intravenous solutions for various purposes. Pharmasols, pharmaceutical colloids, were a special feature of this exhibit, and particular attention was called to Oragol, an electrically prepared suspension of colloidal silver and gold for infectious conditions in nose, throat, and eye affections. The preparation is put up in an attractive case with a dropper and nasal douche. Néocaine, with the Gaston Labat syringes and needles, were also shown.—Among the fine display of colloids by the CROOKES LABORATORIES (British Colloids, Ltd., 22, Cheniesstreet, W.C.) was Ichthyol, prepared from the distillation of fossilised marine deposits found in the Norfolk oilfields. This, it was particularly pointed out, is a natural product and not a synthetic preparation. Collosol Iodo-Cataplasma, for use in the place of ordinary poultices, also received marked attention.—A noteworthy exhibit was that of the BRITISH ORGANOTHERAPY CO., LTD (22, Golden-square, Regent's-street, W.). Here was displayed a selection of scientific organo-therapeutical products, both for oral and hypodermic administration—monoglandular and pluriglandular products, which, it was pointed out, are made from fresh materials (within a few minutes of the death of the animal), and every animal used has to pass a stringent examination by a veterinary surgeon before the required glands are dissected. Among the products exhibited were Lymphoid Compound, for functional nervous disorders; Lymph Serum, for degenerative, mental, and nervous conditions; Evatmine, for asthma; and Pancreatokinase, for diabetes mellitus and glycosuria.—The principal exhibits of the ANGLO-AMERICAN OIL CO., LTD. (Albert-street, Camden Town, N.W.), were Nujol and Mistol, the first being a paraffin product of exceptional purity used as an intestinal lubricant, and the second an oily solution for use in an atomiser by means of which the soothing and antiseptic properties of camphor, menthol, and eucalyptol, are brought into intimate contact with the mucosa of the nose and throat.—At the stand of G. W. CARNRICK CO.'s Standardised Gland Products (London Agents, the A.D.S. Co., 40–42, Lexington-street, W.) preparations were exhibited in variety and particularly for use in menstrual and menopausal disorders and in neurasthenia (Hormotone); diabetes (Trypsogen); gastro-intestinal disorders (Secretogen); and as an aid to metabolism in tuberculosis, malnutrition, &c. (Kinazyme).—Much interest was shown in the stall of ENDOCRINES, LTD. (72, Wigmore-street, W.), where there was a large collection of pluriglandular preparations of the Harrower Laboratory known as "Polycrines." This laboratory prepares 33 various combinations of the endocrine glands in tablet form for oral administration and four combinations of glands in the form of solution for hypodermic injection. The latest addition to the list is a nucleoprotein solution of parathyroid and spleen (Sol. Para-Spleen Co.) put up in ampoules. This is a special product of the Harrower Laboratory. A vest-pocket "Manual of Pluriglandular Therapy," containing 290 pages, is distributed by the firm for the use of medical men.—The original preparations of C. J. HEWLETT AND SONS (35–42, Charlottestreet, and 83–85, Curtain-road, E.C.) drew attention by reason of their external attractiveness no less than by their indicated use. These included antiseptic cream for eczema, abrasions, &c.; Mist. Pepsinæ Co. c. Bismutho, as a remedy in dyspepsia, gastrodynia, pyrosis, gastritis, and sickness; and Evapogens, a series of medicated skin lotions, containing spirit, that rapidly evaporate on the skin. A special feature of the exhibit was Dr. Crofton's Human Tubercle Bacillus Solution for the immunisation treatment of tuberculosis.—Among the large selection of preparations for use in the treatment of syphilis exhibited by MAY AND BAKER, LTD. (Battersea, S.W.), was Novarsenobillon ("914"), Arsenobillon ("606"), Arseno-argenticum, and Eparseno ("192") amino-arseno-phenol, the base of "606" combined with glucose. This is used in syphilis, yaws, recurrent fever, and has had marked success in leprosy. Stovarsol, hydroxyacetylaminophenylarsenate, is a new preparation for use in amœbic dysentery. Attention was also called to Rubyl—bismuth and quinine iodide—which in syphilis appears to be the best tolerated of the insoluble salts of bismuth.—At the stall of OPPENHEIMER, SON AND CO., LTD. (179, Queen Victoria-street, E.C.), Roboleine, the "A," "B," "C" vitamin diet, was exhibited; organic preparations in their well-known palatinoids, and argentum, cuprum, ferrum, hydrargyrum, iodum, manganese palladium, selenium, stibium, and sulphur "oscols." The palatinoid administration of hormone products was also demonstrated.—In connexion with vitamin preparations VITMAR, LTD. (Standen-road, Southfields, S.W.), showed their product, which is an intimate emulsion of ox fat, raw egg yolk, wheat germ extract, and fresh fruit juice, and has the high food value of 400 calories per 100 grammes. Its use is indicated in the treatment of all forms of malnutrition, rickets, neurasthenia, gastro-intestinal disorders, and all conditions in which a bland, readily absorbed nutrient is necessary.—A new antiseptic and germicide, Dibromin ($C_4Br_2N_2H_2O_2$), was shown by PARKE, DAVIS AND CO. (50, Beak-street, Regent-street, W.). This is a white crystalline powder slightly soluble in water, but more so in glycerine or alcohol, and by the Rideal-Walker test has been shown to be 105 times as powerful as pure carbolic acid. It is claimed to be practically non-toxic and non-irritating when used in dilute aqueous solution of 1 in 10,000 to 1 to 1000. It also does not coagulate albumin. Gland products, pharmaceutical preparations, and anti-catarrh vaccine and mixed vaccine for colds were other exhibits which excited much interest.—Scillaren,[7] cardio-tonic glucoside of squill allowing of the exact medication required in modern therapy, and a valuable adjustment to digitalis, was exhibited by the SANDOZ CHEMICAL CO., LTD. (Canal-road, Bradford), as well as Femergin (Ergotamine "Stoll"), Ipecopan, an expectorant and sedative which contains the pure alkaloids of ipecacuanha and opium, and Felamine, for treatment of affections of the biliary system. Attention was drawn to Matinol, a dietetic and digestive biscuit which regulates the intestinal functions and provides an entirely new medium for the administration of paraffin.—The preparations of SAVORY AND MOORE, LTD. (143, New Bond-street), were prominently exhibited, and special interest was shown in their foods for infants and adults. The easily digestible peptonised cocoa and milk and peptonised milk attracted many inquirers, as did also the acid glycerin of pepsin (Bullock) which has a sweet taste and agreeable flavour and may be combined with most medicinal substances with which acids are compatible. A dainty preparation of this firm is Aphrodont tooth paste.—Many inquiries were made at the stall of W. MARTINDALE (10, New Cavendish-street, W.) whose preparations made a striking appeal. Among them were two chemical substances new to medicine—namely, Aspriodine—which combines the properties of aspirin and iodides, and Sedasprin, a definite compound of bromine and aspirin. Mercurochrome,[8] an antiseptic, also produced many inquiries. Attention was drawn to the eighteenth edition of the "Extra Pharmacopœia" of this firm, which is published this week.—The display of CHARLES ZIMMERMANN AND CO. (9 and 10, St. Mary-at-Hill, E.C.) included Idozan, described as a colloidal iron concentrate for use as an oxy-hæmoglobin excitant in the treatment of anæmia, and Kathiolan "one application" treatment for scabies. Attention was particularly drawn to Asthmolysin (adrenalin-pituitary compound), a sterile and effective anti-spasmodic, for hypodermic use in the treatment of acute attacks of bronchial asthma, and to Incitamin, a comparatively new remedy for the treatment of slowly healing sores.—Interesting preparations to be seen at the exhibit of BENGUE AND CO. (52, Charlotte-street, W.) were: Dr. Bengue's Balsam, menthol, methyl salicylate, lanoline, analgesic, antiseptic; Ethyl Chloride, for local and general anæsthesia; Pulmo Bailly, for diseases of the respiratory organs, asthma, bronchitis, catarrh, and tuberculosis; and Forxol, a preparation of nucleogenic vitamins for neurasthenia and disease of nervous origin.—The Izal disinfectant specialties were shown by NEWTON, CHAMBERS AND CO., LTD. (331, Gray's Inn-road, W.C.). Izal disinfectant in the form of medical and ordinary fluids, perles, ointment, lozenges, cream, household, and toilet and medical soaps, and the "Zal" Disinfector, which is an improved form of bronchitis

kettle which can be used over a gas ring, spirit lamp, &c., under circumstances where it is not practicable to fit up a steam installation. Two useful preparations of this firm elegantly put up in collapsible tubes were Izal Toilet Lano-Cream and an antiseptic shaving foam.—Among the preparations displayed by GENOTOSAN LTD. (Loughborough, Leicestershire) were the tonic food Sanatogen, a germ-killing snuff, Nasmint, Formamint, and Genasprin. Detoxicated vaccines were also shown in variety.—JEYES' SANITARY COMPOUNDS CO., LTD. (64, Cannon-street, E.C.), exhibited a large number of preparations of Cyllin which has a high bactericidal power with but slight toxicity. Among them were inhalant capsules for use in stomachic and intestinal antisepsis, syrups for infantile diarrhœa, pastilles, dusting powder, ointments, and so forth. Jeyes' Lysol (Jeysol) and Jeyes' Cyllin Veterinary 3 m. capsules for dogs were also displayed.—The stall of the HOFFMANN-LA-ROCHE CHEMICAL WORKS, LTD. (7 and 8, Idol-lane, E.C.) had a very fine display of drugs including among others "Digalen"; "Iodostarin"; Oleo-Bi [9] and Tartro-Bi; "Omnopon," total opium; "Spasmalgin"; "Thiocol"; and other well-known "Roche" products. Much interest was shown in this firm's "Allonal," [10] or allyl-isopropyl-barbituric acid combined with phenyl-dimethyl-amino-pyrazolon, which is non-narcotic, and the claim is made that it is non-habit-forming. It contains no opium derivatives and can be used in the place of morphia where indicated.—VIROL, LTD. (Hanger-lane, Ealing, W.), in addition to their well-known specialties of Virol and Virolax, displayed Virol and Milk in powder form which, mixed with hot water, makes a useful toric food.—OXO, LTD. (Thames House, Queen-street, E.C.), who showed Oxo in various forms, Lemco and Lab-Lemco, made a special feature of "Oxoid" Gland extracts, in connexion with which two interesting pamphlets are issued; the thyroid gland and the pituitary gland, both containing general observations on glandular therapy.—The merits of products of BOVRIL LTD. (148–166, Old-street, E.C.) are too well-known to need more than passing mention. —An attractive display of California Syrup of Figs was made by FASSETT AND JOHNSON, LTD. (86, Clerkenwell-road, E.C.).—The MALTINE MANUFACTURING CO., LTD. (9, Holborn Viaduct, E.C.), showed their malt preparation which contain the nutritive element of wheat and oats, in addition to those of barley.—J. C. ENO, LTD. (Pomeroy-street, S.E.), demonstrated the properties of their well-known fruit salt, and presented to their many inquirers a copy of "The Practitioners' Pocket Book," a useful little book containing matters of much interest to medical men.—Thermogene Curative Wadding, THERMOGENE CO., LTD. (Hayward's Heath, Sussex). This is a prepared cotton-wool with analgesic and counter-irritant properties, which has been found of use for some considerable time.—DENVER CHEMICAL MANUFACTURING CO. (London, E. 3) made a display of the now well-known Antiphlogistine, an hygroscopic and antiseptic poultice the use of which was illustrated in a series of attractive pamphlets.—Angier's well-known emulsion (petroleum with hypophosphites) was shown by the ANGIER CHEMICAL CO., LTD. (86, Clerkenwell-road, E.C.).—In addition to Pineoleum Brand Inhalant,[11] PINEOLEUM CO., INC. (American Drug Supply Ltd., 40–42, Lexington-street, W.) showed a new form of the preparation which consists of a paste in a collapsible tube. This is a convenient way of administering Pineoleum to the mucous membrane of the nose.—Prominent on the stall of PEPSODENT CO. (42, Southwark Bridge-road, S.E.) was the Decoater Tooth-brush designed for use with the tooth paste "Pepsodent." These brushes are of such a shape that the bristles penetrate to all parts of the oral cavity; they are contained in a pocket case.—KOLYNOS INCORPORATED (Chenies-street, W.C.) showed their dental cream, an antiseptic which does not interfere with the normal secretions of the mouth and makes a most efficient cleansing agent for the teeth.—KEEN, ROBINSON AND CO., LTD. (incorporated with J. and J. Colman, Ltd., London and Norwich), in addition to their well-known mustard, showed an ointment having all the therapeutic virtues of the mustard plaster, and Almata,[12] a complete food for infants, invalids, and nursing mothers. Robinson's Patent Groats and Patent Barley were also exhibited.

References.

1. Osmo Kaolin (Morson), 1924, ii., 662.
2. Bynol and Bynotone, 1923, i., 342.
3. Diabetic Flour, 1923, i., 30.
4. Tabloid Parathyroid, 1924, ii., 662.
5. Stabilarsan, 1923, i., 30.
6. Cardibaine and Digibaine, 1924, i., 398.
7. Scillaren, 1923, ii., 1144.
8. Mercurochrome, 1924, i., 398.
9. Oleo Bi., 1923, ii., 1090.
10. Allonal, 1924, i., 398.
11. Pineoleum, 1923, ii., 1144.
12. Almata, 1923, i., 30, and 312.

(*To be concluded.*)

Correspondence.

"Audi alteram partem."

FACT AND THEORY IN RADIO-THERAPY.

To the Editor of THE LANCET.

SIR,—In your issue of Sept. 27th Dr. F. Hernaman-Johnson discusses some of the principles in the radio-therapeutics of cancer. In this article there are one or two passages in which the author departs from his usual lucidity, and which seem to me to afford the occasion for comment.

In the first instance, the author appears to confuse facts and theory. On p. 635 he says: "I made a statement in 1916, I think, to the effect that ultra-violet rays could not benefit exophthalmic goitre 'because they had practically no penetration'; and one sees similar statements to-day." He then refers to the fact that deep-seated lesions may be benefited by this form of therapy, cries an honest "peccavi," and then says "we should beware of denying clinical facts because of physical theories." I do not think we should blame theory here; judgment upon the physical facts has been wrong, but even the facts were right. (I join in the peccavi!)

Secondly, the author on p. 638 seems to me to invoke a theory against the facts. He is discussing the well-known clinical fact that growths become apparently resistant to repeated applications of X rays. Obviously this may be due either to the malignant cells or to the tissues of the host, an alternative not easily decided upon in the human subject. He then refers to the fact that when animal tumours are removed from the body and given repeated doses of X rays, the same phenomenon appears. The experimenter responsible for this finding has concluded that whatever the body of the host may do, the cells of the tumour thus repeatedly irradiated acquire an increased resistance to the rays. Dr. Hernaman-Johnson thinks it is perhaps simpler to assume that certain cells by reason of variation, or even of mutation, have inherently a higher resisting power; that these alone survive and their descendants inherit the favourable character. To my mind it is not a simpler assumption, and it is contradicted by the facts which form the working basis of lethal dose determinations.

Finally, a word upon the first of Dr. Hernaman-Johnson's conclusions. He says: "The wave-length most suitable for any given type of growth can be found only by clinical observation." This is an amazing statement, for if there is a laboratory investigation likely to throw some light on therapeutic probabilities I do not think that a better example could be found than this study of the animal response to measured doses of radiation of different wave-lengths.

Surely, if data of this sort were found, the experimenter would probably get from radiologists the consideration that laboratory investigations bearing on other aspects of medicine receive.

I am, Sir, yours faithfully,

Middlesex Hospital, W., Oct. 4th, 1924. SIDNEY RUSS.

DENTAL DRESSERS.

To the Editor of THE LANCET.

SIR,—Mr. A. T. Pitts in his letter on the above subject in your issue of Oct. 4th does not refer to the fact that a Departmental Commission, which sat and took evidence on how to solve the problem of dental disease as well as how to look after the interests of the dental profession, reported that local authorities could not afford to employ dentists to do the minor dental work, and that trained dental nurses might be trusted to do this work under proper supervision. A Bill was introduced to give effect to the recommendations of the Departmental Committee, and a clause in the Dentists Act enables the services of trained dental nurses to be utilised, on conditions to be approved by the Minister of Health. But the conditions now laid

down by the Minister will now stop the work they have been doing in Derbyshire for the last five or six years. Mr. Norman Bennett, who gave evidence on behalf of the British Dental Association against trained dental nurses being employed on any minor operative work, was called in by the Board of Education to advise them, and two of the conditions laid down in Circular 1279 are recommendations contained in Mr. Bennett's report to the Board of Education. It is as if the town clerk of Ephesus had invited Demetrius to draft a circular giving the conditions under which Christianity could be preached without detriment to the craftsmen he represented. It would be humorous if it were not tragic.

Two important questions arise from Mr. Pitts's letter: (1) *Are these trained dental nurses efficient?* Mr. Pitts has given a verdict without any examination of their work. The work of our trained dressers has been tested by more than half a dozen different dentists, and not one has been able to say that the work is not of the highest professional standard. I will withdraw from any advocacy of dental nurses if it can be shown that the scheme is in any way injurious to the children. (2) *Is the scheme in the interest of the dental profession?* Undoubtedly it is, for if sanctioned, every authority in the country would be only too willing to provide a public dental service, and there would at once be a great demand for dentists. At the present time we are doing nothing for our antenatal mothers, whose teeth are crying for attention. This is work which should be done by dentists alone. We are doing nothing for children below school age; this is suitable work for a dental nurse working under the supervision of a dentist. Practically nothing is being done in this country for the teeth of patients suffering from tuberculosis, and above all, the Royal Commission now sitting is sure to recommend that dental treatment shall be one of the benefits to be given under the Insurance Act. This work is all work which must be done by dentists, and those who are working with me for the recognition of trained dental nurses to do "minor dental work" under the supervision of a dentist, as recommended by the Departmental Committee, will loyally support the dental profession in safeguarding their interests.

When Circular 1279 was drawn up none of the authorities who were employing trained dental nurses were consulted, either by the Board of Education or by the Dental Board. Speaking for myself, I should be perfectly satisfied if every dentist was limited to *one* dental nurse working with him, provided the work of inspection in the schools with probe and mirror were entrusted to another.

I can assure your dental readers that no member of their own profession has their real interests at heart more than myself, and unless a compromise can be effected on this question I have no doubt that a scheme on the lines of the New Zealand scheme will find its place on the Statute Book before many years.

I am, Sir, yours faithfully,

SIDNEY BARWISE.

Medical Inspection Department, Derby, Oct. 6th, 1924.

THE LATE MR. W. H. A. JACOBSON.

To the Editor of THE LANCET.

SIR,—I did not serve directly under Jacobson at Guy's, but the out-patients offered opportunities for appreciation. No one who observed him could doubt he "postulated a continuity," that he was an aristocrat and no self-made man, even if in his lectures he had never spoken of "my father the Bishop"—one of the subjects of Dean Burgon's "Lives of Twelve Good Men." Jacobson could be exacting and seemingly haughty, yet I hazard he was essentially humble, and "without humility, no veracity." A man walking up to him between rows of students, with hat on, would meet with resenting disapproval, but many a forlorn woman called forth Jacobson's practical sympathy. And now, in the faded days, I think if there was one characteristic more than another it was his glow.—I am, Sir, yours faithfully,

Dean-rd., Willesden Green., N.W. RICHARD GILLBARD.

THE HEALTHY HEART.

To the Editor of THE LANCET.

SIR,—The case of an ex-Service man who consulted me recently has some bearing on the "healthy heart." Eight medical boards of the Ministry of Pensions diagnosed his case as valvular disease of the heart, the last board making a final award equivalent to a disability of 16 per cent. for two and a half years, and then of 0·25 per cent. for the rest of his life. That, of course, must mean that the medical board were of opinion that after two and a half years the man's heart would be practically a "healthy heart"! At present there is well-marked mitral regurgitation, enlarged heart, and the "effort syndrome" which denotes impaired musculature. Can any of your readers tell me under what treatment such a heart can be restored to normal within two and a half years, or at all? The Ministry of Pensions, I may add, has refused to allow an appeal on the ground of the application not being made within the year.

I am, Sir, yours faithfully,

D. F. SHEARER, F.R.C.S.

Kidlington, Oxon, Oct. 6th, 1924.

THE SLEEPLESSNESS OF ENCEPHALITIS.

To the Editor of THE LANCET.

SIR,—Since the early part of the year there have been about 50 cases of encephalitis lethargica under observation at Southmead Hospital. We have experienced the usual difficulty in dealing with "the sleeplessness by night, and the sleepiness by day" in ten cases. On carefully questioning them, I found that terrifying dreams had particularly affected this class; coming on directly they went off to sleep in a darkened room; keeping them awake practically all night, until the morning light, and hence their tired condition of the next day. I arranged for a bright light to be kept burning in their rooms (night-lights are not bright enough) and tried several shades of different colours; blue is the most soothing to them. Successful results have been obtained; they have soon gone off to sleep again. By keeping them well employed during the day with outdoor exercises they are rendered so tired that they soon sleep all night, and make a rapid recovery. I have noticed the liability to recurrence of encephalitis, and a more severe attack in those cases, where there is a family history of insanity or mental instability, as though the toxin was possibly more severe in its effects on a brain already weakened by an hereditary taint.

I am, Sir, yours faithfully,

ROBERT H. NORGATE,
Medical Superintendent, Southmead Hospital,

Sept. 29th, 1924. Bristol.

EXPERIMENT AND OBSERVATION.

To the Editor of THE LANCET.

SIR,—In the introductory address by Sir David Ferrier published in THE LANCET of Oct. 4th, a quotation from Lord Moulton, evidently endorsed by the speaker, occurs as follows: "The right way to advance knowledge is by experiment. When we are reduced to observation, science crawls." As a mathematician and chemist, the experimental method of advancing knowledge may have seemed to Lord Moulton the only method of importance. But it is unfortunate that this one-sided statement should be authoritatively presented to medical students, since of those who may feel a wish to advance their science perhaps nine-tenths will never get the chance of performing experiments either before or after they are qualified. They might also have been told that the extent to which advance depends on experiment varies with the sciences; that physics and chemistry exemplify sciences forwarded almost exclusively by experiment, while at the other extreme is a science like geology, built up almost entirely on observation and inference; that medical science occupies an intermediate position, experiment being necessary to

determine causes and means of cure, while the observational method is necessary to differentiate and delineate disease. Patient and continuous observation of diseased subjects is the crying need of every generation in medicine; its neglect being due, not to its unimportance, but to the difficulties surrounding it, and because its importance is seldom taught in the schools. The insight given by successful observation is of signal importance to medical progress, and may even determine a new epoch in the study of a subject; the masters of this method have at all times been among the acknowledged eminent of their age. Every student should be made to realise that nothing in his training or after-opportunities need prevent him from embarking on a career of research, or from hoping to reap the distinction and reward of some solid discovery.

I am, Sir, yours faithfully,

Liverpool, Oct. 6th, 1924. EDMUND HUGHES.

THE NEW METHYLATED SPIRIT.

To the Editor of THE LANCET.

SIR,—Having to-day ordered a lotion containing spt. vini meth., I was told by the chemist to whom the prescription had been taken that there is some doubt whether this spirit, since the recent alteration in its composition, is suitable for application to the skin. Seeing how very largely it has been so used in the past, it is desirable to know certainly whether methylated spirit, in its new form, has any harmful action on the skin. I am, Sir, yours faithfully,

Oct. 6th, 1924. SENEX.

*** The crude pyridine which since May last has been added in the proportion of 0·5 per cent. to methylated spirit as sold to the public is, we understand, irritating to the skin as well as to mucous membranes.—ED. L.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

R. M. Drennan to be Surg. Lt.

ROYAL ARMY MEDICAL CORPS.

Lt.-Col. J. H. R. Bond retires on ret. pay and is granted the rank of Col.

TERRITORIAL ARMY.

Maj. P. J. Gaffikin to be Lt.-Col. and to commd. the 131st (Home Counties) Field Amb., vice Lt.-Col. C. W. Ponder, whose tenure of commd. expires.

Capt. G. Adam, having attained the age limit, is retired and retains the rank of Capt.

ROYAL AIR FORCE.

C. J. MacQuillan and F. P. Schofield are granted short service commissions as Flying Officers.

INDIAN MEDICAL SERVICE.

The King has approved the retirement of Maj.-Gen. B. H. Deare.

Lt. Ram Nath Bhandari to be Capt.

Lt.-Col. E. F. Tucker, on return from leave, becomes Senior Medical Officer, First Physician, J. J. Hospital, and Professor of Medicine and Therapeutics, Grant Medical College, Bombay. Lt.-Col. R. M. Carter becomes Second Physician and Registrar, J. J. Hospital, and Professor of Materia Medica and Pharmacy, Grant Medical College, Bombay. Maj. M. J. Holgate, on the termination of the Mahableshwar season, took over the duties of Surgeon, Ahmednagar. Maj. S. S. Vazifdar acts as Presidency Surgeon, Second District, Bombay, with attached duties, in addition to his present duties as Second Physician at the J. J. Hospital, until relieved of the latter duties by Lt.-Col. R. M. Carter, and thereafter acts as full-time Presidency Surgeon, Second District, Bombay, with attached duties. Lt.-Col. C. B. McConaghy has been posted as Administrative Medical Officer in Central India and Residency Surgeon, Indore. Maj. A. N. Thomas, on return from leave, has taken over the duties of Superintendent of Mahableshwar, vice Maj. M. J. Holgate.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Reassembling of Parliament.

PARLIAMENT reassembled on Tuesday, Sept. 30th, after the summer recess. The object of having an earlier meeting than was originally intended was to pass the Irish Boundary Bill, a measure giving power to the British Government to set up the Commission to settle the boundary between Northern Ireland and the Free State, and to appoint a Commissioner in view of the refusal of the Northern Irish Government to do so.

HOUSE OF COMMONS.

THURSDAY, OCT. 2ND.

Revision of Pension Warrant, 1919.

Dr. SPERO asked the Minister of Pensions if he proposed to revise the whole of the Royal Pensions Warrant, 1921, in view of the large number of amendments and changes of entitlement which had been issued recently.—Mr. F. O. ROBERTS replied: Yes, Sir. It is intended at a convenient opportunity to issue an up-to-date version of the Royal Warrant of December, 1919 (to which I presume the hon. Member refers), and of the concurrent Orders-in-Council, embodying the various amendments that have been made since their issue.

Physical and Mental Condition of Murderers.

Mr. LAMB asked the Home Secretary whether official daily bulletins were issued as to the physical, mental, and spiritual condition of convicted murderers awaiting execution: and if not, whether he had taken any steps to ascertain the source of such bulletins that had recently been published.—Mr. DAVIES (Under Secretary for Home Affairs) replied: My attention has been called to bulletins or reports of this kind which have recently appeared in newspapers. They certainly have not been communicated by the prison authorities. The reports themselves have been utterly devoid of truth and seem either to have been invented by the writers or to have been based upon false statements made to them by discharged prisoners or others professing to be able to supply information.

Medical Opinion and the Smoke Nuisance.

Sir WALTER DE FRECE asked the Home Secretary whether he was aware of the growing criticisms of medical officers as to the evil effect of the smoke nuisance; and, seeing that the law was not sufficient to deal with this growing menace to the public health and that the police statistics showed a serious increase in the number of private chimneys which caught fire as the result of carelessness in respect of sweeping, would he inquire into the matter.—Mr. GREENWOOD (Parliamentary Secretary to the Ministry of Health) replied: A Bill dealing with the smoke nuisance has been introduced in the House of Lords and has been read a second time and passed through Committee. My right hon. friend is advised that powers already exist for dealing with the nuisance arising from private chimneys which take fire.

New Form of Death Certificate.

Mr. PENNY asked the Home Secretary whether, in the new form of death certificate to be issued, he would make it compulsory for doctors to inspect the body of the deceased before signing, so as to safeguard, as far as possible, against the chance of live burial.—Mr. GREENWOOD replied: No powers are available which would enable such an obligation to be imposed upon medical practitioners, and legislation would be necessary to give effect to the hon. Member's suggestion.

Procreation of Unfit Children.

Mr. BLACK asked the Minister of Health whether, in view of the continuously enlarging financial responsibilities accepted by the State with regard to unemployment, invalidity, and old age, he would state the policy of the Government with respect to the procreation of children who, owing to physical or mental deficiencies, became a charge upon the State funds; and whether he was prepared to appoint a Royal Commission to investigate into the possibilities of improving the calibre of the nation by restricting the procreation of children to persons possessing a recognised minimum standard of physical and mental efficiency.—Mr. GREENWOOD replied: As at present advised my right hon. friend does not see his way to recommending the appointment of a Royal Commission on this subject. I may perhaps add that he is not aware of the existence of any recognised standards of physical and mental efficiency.

Lee Commission and Indian Medical Service.

Colonel Sir CHARLES YATE asked the Under Secretary of State for India if it was now proposed to bring the recommendations of the Lee Commission into operation without further delay; and whether these recommendations would be adopted in full, including those relating to the medical service.—Mr. RICHARDS replied: I am not yet in a position to make any statement on this subject. My noble friend, the Secretary of State, is still in correspondence with the Government of India on certain points, and both he and the Government are desirous that orders on the report should be issued with the least possible delay.

Reform of Public Health Laws.

Mr. ROBERT RICHARDSON asked the Minister of Health if the statement in the Annual Report for 1923 of Sir George Newman to the effect that in hundreds of sanitary districts there was a failure to use the facilities which the sanitary law provided was based upon official records of the Ministry of Health; and, if so, whether he was prepared to appoint a Royal Commission to inquire generally into the whole question of the administration of the laws relating to public health and housing and the generally unsatisfactory conditions prevailing in the sanitary service.—Mr. GREENWOOD replied: The answer to the first part of the question is Yes. The second part refers to a matter which would fall within the scope of the terms of reference to the Royal Commission on local government now sitting.

Sir George Newman and Public Health Administration.

Mr. JOHN GUEST asked the Minister of Health whether he had read the statement of Sir George Newman in his report for 1923, to the effect that there were many authorities and medical officers of health who muddled on from hand to mouth, the victims of every passing whim or popular stunt, instead of organising their work as responsible and competent men charged with the duty of directing the public service of their district; whether there was any record at the Ministry of the muddling authorities and incompetent medical officers of health; and, if so, what action he proposed to take, in the interests of the community, to remove the medical officers of health referred to from office and to supersede such authorities.—Mr. WHEATLEY replied: The answer to the first two parts of the question is Yes. With regard to the third part, the difficulty is largely due to the passivity of local public opinion on health questions in many areas, and I have this point under consideration. Further difficulty arises owing to the number and size of many of the 1800 sanitary authorities, a subject which would fall within the scope of the terms of reference to the Royal Commission on Local Government now sitting. There is no question that the large authorities are, as a whole, discharging their duties satisfactorily.

Medical News.

UNIVERSITY OF LONDON: *University College.*—Prof. S. L. Rashkovich, M.D., Director of the Technical Sanitary Institute of Petrograd, will deliver a course of four public lectures on Water-supply and Its Purification, at University College, on Fridays, Oct. 10th, 17th, 24th, and 31st, at 5.30 P.M. The chair at the first lecture will be taken by Prof. H. R. Kenwood. Tickets of admission are not required.

UNIVERSITY OF LONDON: *Parliamentary By-Election.*—In his election address Dr. F. G. Bushnell says that he supports thoroughly the programme of the Labour Party to develop fully the medical and social "community services," especially the extension of the benefits of the National Health Insurance Acts, and the further and better utilisation of hospitals and infirmaries for the public. He believes in wide publicity and propaganda being afforded by the State in preventive medicine, and is in complete agreement with the Advisory Committee of the Trades Union and Labour Party in their health policy. The task of preventive medicine is made more difficult by the fact that most infections are due to ignorance of the principles of hygiene and sanitation. Preventive medicine, he concludes, has become a basic factor in sociology both as regards the unhealthy conditions that affect the person (i.e., hygiene) and those that result from defective environment (i.e., sanitation).

HOSPITAL DINNERS.—The Annual Dinner of the Old Students of the *London Hospital* was held at the Trocadero Restaurant on Oct. 1st. Over 200 attended, and the present and past staff of the hospital were well represented. The chair was taken by Prof. W. Bulloch, who for 27 years has been in charge of the bacteriological department of the hospital. He referred to the changes which had taken place in that time, during which the whole of the visiting staff has changed, with the single exception of Lord Dawson. Paying a striking tribute to Lord Knutsford, he spoke of the rapid developments which had been made at the London Hospital in his own time, contrasting its atmosphere of energy and progress with the "mediæval repose" which he had observed elsewhere. His hearers were left in no doubt as to the vast advances which have been made in scientific medicine, in which bacteriology has played so large a part, but some of them may have felt a twinge of regret at the passing of the personalities who dominated the hospital 30 years ago, when F. J. Smith astonished the students by his language, and Treves by his operative daring. In spite of its size, Prof. Bulloch concluded, the London Hospital had succeeded in maintaining that personal contact with its students which was one of its oldest traditions, and which formed the greatest and most striking characteristic of medical teaching in this country.

The Annual Dinner of the Past and Present Students of the *Middlesex Hospital* Medical School was held at the Hotel Cecil on Wednesday, Oct. 1st, Mr. G. Gordon-Taylor, surgeon to the hospital, occupying the chair. There was a very large gathering of the alumni of the school, the total, including guests, being about 260. The guests included Sir Douglas McGarel Hogg, M.P., Sir William Leishman, F.R.S., the Mayor of St. Marylebone, Mr. W. Hartman, and Mr. F. G. Hallett. The Chairman, in proposing "The Middlesex Hospital and its Medical School," referred to the friendly relations between the lay board and the medical staff and to their loyal coöperation in all matters affecting the work of the hospital. He alluded to the value of the efforts of the League of the Associated Hospitals of St. Marylebone and to the formation through the agency of the mayor of an employers branch of this League. He voiced the general regret at the loss of Lord Athlone as chairman of the weekly board, pointing out that he had endeared himself to every person connected with the hospital. The resignation of Dr. Campbell Thomson and that of Prof. W. S. Lazarus-Barlow were also serious losses to the hospital and school. He was sure that all present would be sorry to learn of the resignation of Mr. A. E. Webb-Johnson of the office of dean, which he had filled with such great advantage to the school, and he drew attention to the great work he had achieved in helping to put the school on a sound financial basis. He alluded to the pride felt by all Middlesex men in the re-election of Sir John Bland-Sutton to the office of President of the Royal College of Surgeons and to the professional honours and distinctions conferred upon other old students of the school. Mr. Richard C. Davis, chairman of the Finance Committee of the school, in replying for the hospital, pointed out that medical education and research were essential functions of a hospital. In spite of its great value research was not fostered in this country as it deserved to be. Mr. Webb-Johnson, in replying for the school, mentioned the generous gift of £20,000 from Mr. Courtauld to endow the chair of anatomy in the medical school. He thought it must be unique for a hospital to number amongst its residents at one time three gold medallists at the London M.B., as was recently the case at the Middlesex Hospital. He expressed his regret at relinquishing the office of dean, but regarded the charge of the school as in the nature of a relay race. Mr. C. Vincent Cotterell, in replying on behalf of the old students, described the great increase in the work of the hospital. When he joined 46 years ago the hospital had 305 beds with 36 devoted to cancer cases, whereas now there were 450 beds with 92 for cancer. He mentioned that out of a staff of 40, 26 were old students of the school. Mr. J. W. Nankivell, the senior Broderip Scholar, replied on behalf of the present students. The toast of "The Guests" was proposed by Sir Arnold Lawson. Sir Douglas Hogg, in replying, maintained that the efficiency and progress of medical science were due to the hospitals. He spoke with approval of the useful work of the St. Marylebone Hospitals League. Sir William Leishman spoke of medical research and of the useful work being accomplished in the Bland-Sutton and cancer research laboratories. He was optimistic as to the outlook in the future for pathological research.

The Annual Dinner of *St. Mary's Hospital* Medical School was held at the Connaught Rooms on Monday, Oct. 6th, when 149 members of the school, past and present, attended. Dr. Eustace M. Callender, who was in the chair, proposed the continued prosperity of the school, and contrasted St. Mary's in his day with the present position, recalling some amusing scenes of his student days. He asserted his belief that the future of the school was very bright, judging by the expansion of the buildings, the keenness of the teaching staff, and the large number of students. The Chairman of the Hospital Board, Mr. A. R. Prideaux, gave a short résumé of the activities of the hospital during the present year, and mentioned the extension of the X ray department and the

proposed increase in operating theatre accommodation as instances of progress. He alluded to the great loss the hospital had sustained in the loss of Mr. W. H. Clayton-Greene from the surgical staff and paid a high tribute to his great position in the surgical world. Another loss which was Cardiff's gain was the appointment of Dr. E. H. Kettle to the professorship of pathology and bacteriology in the Welsh National University. He laid stress on the extraordinarily cordial relations which continued to exist between the lay board and the consulting staff of the hospital, a state of affairs so essential to the prosperity of any such institution. Dr. C. M. Wilson, Dean of the Medical School, stated that the entry was still maintained at a high figure, and held out great hopes for the future. Sir Anderson Critchett paid a graceful tribute to Dr. Callender, after whose reply the party broke up into informal groups to renew old friendships.

The annual Old Students' Dinner of *St. Bartholomew's Hospital* was held in the Great Hall of the hospital on Wednesday, Oct. 1st, when Dr. J. H. Drysdale presided for the last time as an active member of the honorary staff. In proposing the Hospital and College, he contrasted the pathological department as it existed 30 years ago, when the late Prof. A. A. Kanthack occupied one small room, with the present position when it had outgrown the handsome building quite recently provided. He alluded with satisfaction to the new building on the opposite side of Giltspur-street, which was now efficiently serving the purpose of teaching and research in physiology, physics, and pharmacology. Sir Herbert Cohen, joint treasurer of the Medical College, and Dr. Morley Fletcher replied, the latter reminding his hearers that although the new department had been paid entirely out of students' fees as a result of the large entries after the war, it remained true that no medical school could now pay its way solely out of such fees. Sir Archibald Garrod proposed "Our Guests," to which response was made by Mr. C. J. Ritchie, master of the Merchant Taylors Company, and Sir Walter Fletcher, who characterised the physiological equipment as second to none in London hospitals, and alluded to the further supplies of radium placed by the Cancer Campaign at the disposal of the hospital. The toast of "The Chairman" was proposed with grace and feeling by Mr. W. T. Holmes Spicer.

The annual dinner of *St. George's Hospital* was held on Oct. 1st at the New Hotel Metropole, London, Sir Isambard Owen, consulting physician to the hospital, being in the chair. There was a good attendance of students, and the feature of the dinner was the favourable report made by the Dean, Dr. J. A. Torrens, on the position of the medical school. The entry at the school, he said, bade fair to be larger than it had been for some 25 years, so that St. George's Hospital would again be able to take its prominent place among the London schools, despite any numerical restriction implied by the reception only of students ready to enter upon their clinical work. The financial statement of the treasurer, Lord Greville, was also more favourable than many of the hearers had expected, though, as with many of the hospitals, a deficit, he feared, would have to be faced during the next year. Sir Isambard Owen's health was given by Sir Squire Sprigge, who outlined the great part in the development of the education of the country which had been played by Sir Isambard Owen in his work at the Universities of Wales, Durham and the Newcastle Colleges, and Bristol. The proceedings closed by the thanks of the company being extended to the secretaries of the dinner and with an impromptu appendix in the form of an amusing speech from Dr. W. S. Fox.

The *King's College Hospital* Past and Present Students' dinner was held on Oct. 1st at the Connaught Rooms. The chair was taken by Mr. Charles P. Childe, F.R.C.S., who was supported by Viscount Hambleden (chairman of the committee of management), and by many members of the honorary staff of the hospital. The gathering included over a hundred members of the school drawn from many different school years. The Chairman, in proposing the toast of "King's College Hospital," delighted his audience with reminiscences of his student days at the old hospital. He told of the many slums and landmarks in the neighbourhood (from which the old hospital drew its clinical material), which had now been swept away and replaced by the fine buildings adjacent to the Kingsway Estate. In those days King's occupied a high position in both work and sport, and the speaker, by a comparison of the activities of those days with the achievements of the past few years, showed that these traditions were being worthily maintained. Viscount Hambleden, in responding, assured the company that the student spirit was still there, and that it was extraordinarily alive on some occasions. He announced the decision of the Council of King Edward's Hospital Fund for London to pay off the remainder of the building debt on the hospital, which amounted to £16,000, and to contribute during the next five years the sum of £15,000 for the purpose of opening 40 fresh beds. Fourteen beds had been added already, and in November another complete ward of 26 beds would be reopened. The remainder of the evening was devoted to the renewing of old friendships. The success of the dinner was due to Dr. Ernest Playfair and Dr. Godfrey de Bec Turtle, who carried out the arrangements.

Westminster Hospital Old Students' Dinner.—On Thursday, Oct. 2nd, the first old students' dinner since the reopening of Westminster Hospital was held in Oddenino's Restaurant, Regent-street, W. The chair was taken by Sir Edward Pearson, chairman of the House Committee, and the assembly numbered over 100. In giving the toast of "The Hospital and the Medical School," the Chairman commented on the bright outlook for the future of the hospital, which last year had seemed somewhat gloomy. The hospital was now open again with new equipment and extra beds, and private wards had been adopted as part of the alterations. He paid a tribute to the work of the treasurer and of the Dean, Dr. A. S. Woodwark. The Chairman emphasised the advantages of a small medical school in keeping the staff and the students in close touch with one another. Dr. Woodwark replied. Dr. Hildred Carlill then proposed "The Past and Present Students," and in the course of his speech he made the gratifying announcement of a gift to the School of Medicine from his uncle, Mr. A. J. H. Carlill, of £20,000 towards the establishment of a pathological unit to commemorate the late Dr. J. B. Carlill, father of the donor. The offer was made conditionally on the school obtaining assistance from the University Grants Committee of the Treasury comparable with that afforded to units of medicine and surgery established elsewhere and on the school obtaining also the approval and coöperation of London University and the consent and support of the House Committee of Westminster Hospital. Dr. H. B. Brackenbury replied to the toast on behalf of the past students, and Mr. Rubra spoke for the present students. "Our Guests" was given by Mr. E. Rock Carling and responded to by Sir Robert Hudson. Mr. William Turner proposed "The Chairman." Among those present were Sir H. Mallaby Deely, Mr. H. J. Waring, Dr. Ainley Walker, Mr. A. E. Marshall (chairman of the Medical School Committee), Sir James Purves-Stewart, Sir H. Bryan Donkin, Sir F. de Havilland Hall, the Rev. Costley White, Sir J. Wormald, Mr. W. G. Spencer, Dr. S. Monckton Copeman, and Mr. George Cowell.

University College Hospital.—The dinner of the Past and Present Students of University College Hospital, which was postponed, is to take place on Friday, Oct. 24th, at 7.30 P.M., at the Hotel Cecil. Tickets can be obtained from Mr. Gwynne Williams and Prof. T. R. Elliott at the Medical School.

LONDON HOSPITAL MEDICAL COLLEGE. — The University Scholarship in Anatomy and Physiology (value £75), open to students of the Universities of Oxford and Cambridge, has been gained by Mr. J. G. A. Davel, of Trinity College, Oxford. The Epsom scholarship (free medical course) has been awarded to Mr. C. E. H. Turner.

ROYAL INSTITUTE OF PUBLIC HEALTH.—A course of nine lectures on the Health of the Commonwealth will be delivered in the lecture hall of the Institute, 37, Russell-square, London, W.C. 1, on consecutive Wednesdays at 4 P.M., commencing Oct. 15th. The first lecture will be given by Sir William Milligan on Physique in Relation to National Efficiency, and announcement of the others will be made in our Medical Diary. The Harben lectures will be delivered by Prof. E. L. Collis on Nov. 24th, 25th, and 27th, at 4.30 P.M. He will deal with Phthisis and Industrialism (National and Occupational), with reference to other infectious diseases. All who are interested in medico-sociological problems are invited to attend these lectures.

SCOTTISH BOARD OF HEALTH CONSULTATIVE COUNCILS.—The Scottish Board of Health have made the following new appointments to their several consultative councils: (1) Medical and Allied Services: Prof. J. R. Currie, University of Glasgow; Mr. A. Gofton, F.R.C.V.S., Chief Veterinary Inspector, Edinburgh; Dr. G. R. Livingston, Dumfries; and Prof. B. F. Watson, University of Edinburgh. (2) National Health Insurance (Approved Societies' Work): Mr. J. G. Barry, Glasgow; Miss Jean Coutts, Aberdeen; and Miss Jobson Stirling. (3) Local Health Administration and General Health Questions: Bailie P. J. Dollan, Glasgow; Mr. A. Findlay, Aberdeen; Mr. Hugh Fraser, Inverness; Bailie Simon G. Fraser, Dundee; and Mr. M. A. Reynard, Clerk to Parish Council, Glasgow. (4) Highlands and Islands: Mr. J. G. MacDonald, Inverness; and Mr. Hugh Miller, Stornoway.

RETIREMENT OF DR. E. W. HOPE. — In an announcement of his impending resignation (THE LANCET, Sept. 6th, p. 501) some account was given of the great work done by Dr. Hope for public health in general and for the City of Liverpool in particular. At a meeting of the

Liverpool City Council on Oct. 1st the Health Committee officially reported Dr. Hope's resignation, and a resolution was passed recording the Council's appreciation of the excellent services at the health department rendered by him for 40 years, during 30 of which he was medical officer of health. In proposing the resolution, Sir Archibald Salvidge described Dr. Hope as one of the most valuable public officials that Liverpool or any other corporation in the country had ever possessed. He has been consulted by many Royal Commissions and Government departments, and the French Government has conferred upon him the Order of Officier de l'Instruction Publique. Dr. Hope, we learn, is at present retaining the chair of public health at the University of Liverpool.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET, LONDON.—The new biochemical department of the hospital will be open for inspection on Thursday, Oct. 23rd, at 3 P.M., when visitors will also be free of the enlarged pathological laboratories and the wards of the hospital. There will be exhibits of scientific instruments in both departments.

MISSIONS TO LEPERS.—Mr. Robert J. Cochrane, M.B., Ch.B. Glasg., son of Dr. Thomas Cochrane, founder of the Union Medical College in Peking, an institution which the Rockefeller Foundation has now made one of the great medical colleges of the world, will be sailing shortly for India and the Far East in connexion with the growing work of the Missions to Lepers. He expects to study the methods of the Calcutta School of Tropical Medicine during the coming autumn in final preparation for world-wide specialisation in leprosy.

CHADWICK LECTURES.—The Chadwick Lecture programme for this autumn includes lectures in London on Defective Hygiene and Child-life, with special reference to the effect produced on growth and development of children by town dwelling and slum areas, by Dr. Lawson Dick; Rats, by Mr. Mark Hovell, F.R.C.S.; Smoke, with a review of its causes, its effects on vegetation, fabrics, masonry, and metal work, and its influence on health and the death-rate, by Prof. J. D. Cohen, F.R.S.; and Antenatal and Postnatal Child Physiology and Hygiene, by Dr. W. M. Feldman, F.R.S. Each lecture will be illustrated either by epidiascope or lantern slides, and among the chairmen will be Sir William J. Collins, chairman of the Chadwick Trustees, Sir James Crichton-Browne, and Sir Frank Baines. Further information about these lectures, which will be free to the public, may be obtained of the secretary, Mrs. Aubrey Richardson, O.B.E., at the offices of the Trust, 13, Great George-street, Westminster.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.—The following scholarships have been awarded for 1924: *Entrance Arts Scholarships:* First (value £50), J. A. G. Bird (Cheltenham College); second (value £50), J. G. Dathan (Cranleigh). *Entrance Science Scholarships:* First (value £150), T. H. Wilson (Merchant Taylors' School); second (value £60), A. M. Easton (Whitgift Grammar School). *Entrance University Scholarship* (value £100): C. I. Tuckett (Rugby, and Trinity College, Cambridge); Proxime Accessit: V. B. Wigglesworth (Repton, and Gonville and Caius College, Cambridge). The William Tite Scholarship (£25) has been gained by H. C. Trowell (Reigate Grammar School).

The Old Students' dinner will take place at the Princes' Restaurant, Piccadilly, on Friday, Oct. 24th, at 7 P.M. for 7.30. The chair will be taken by Mr. Seymour Taylor, M.D., C.M. Aberd., F.R.C.P. Lond. The price of the dinner, inclusive of stewards' fee, is 15*s.*, to be paid at the Princes' Restaurant.

THE LATE MR. JOHN QUILLER ROWETT, LL.D.—The name of Mr. Rowett, whose death occurred under tragic circumstances on Oct. 1st, has been associated in the last few years with many lavish gifts to the cause of scientific research. Himself a business man, he had a deep sympathy with the advancement of many spheres of scientific work. His name will be remembered in connexion with the financing of the *Quest* expedition under Sir Ernest Shackleton. Most of all, however, Mr. Rowett's interests lay along the lines of medical and agricultural research. It was largely through his generosity that investigations were set going at the Middlesex Hospital—investigations which have already considerably advanced our knowledge of the origin of dental caries. At his farm in Sussex, Mr. Rowett carried out extensive researches in practical agriculture. His two interests were happily united in the founding of the "Rowett Institute of Research in Animal Nutrition" at Aberdeen. This institute consists of well-equipped biochemical, physiological, and bacteriological departments, together with an experimental farm. Scientific research in this country is the poorer for the untimely death of one who viewed it from an enlightened standpoint.

Sir Archibald Garrod has been appointed by the Home Secretary to be a member of the Advisory Committee on the Administration of the Cruelty to Animals Act, 1876, in the place of Sir Bryan Donkin, who has resigned.

Dr. J. F. E. Bridger, Principal Civil Medical Officer, has been appointed an official member of the Legislative Council of Ceylon.

HARVEIAN SOCIETY OF LONDON.—A clinical meeting of this Society will be held at the Paddington Green Children's Hospital on Thursday, Oct. 16th, at 4.30 P.M.

ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.—The sittings of the Royal Commission on National Health Insurance will be resumed on Oct. 16th. Any persons or bodies desiring to submit evidence are invited to communicate with the Secretary of the Commission, Mr. E. Hackforth, Ministry of Health, Whitehall, London, S.W. 1.

Medical Diary.

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Monday, Oct. 13th.

WAR: at 5 P.M.
Presidential Address:
Surgeon Vice-Admiral Joseph Chambers, R.N.: Hospital Ships in Peace and War.

Tuesday, Oct. 14th.

THERAPEUTICS AND PHARMACOLOGY: at 4.30 P.M.
Presidential Address:
Prof. A. J. Clark: "Quacks."

Wednesday, Oct. 15th.

HISTORY OF MEDICINE: at 5 P.M.
Presidential Address:
Dr. J. D. Rolleston: Bretonneau: His Life and Work.
Exhibit:
Mr. J. E. H. Roberts: Two (?) Presentation Copies of Wiseman.

Thursday, Oct. 16th.

DERMATOLOGY: at 5 P.M. (Cases at 4 P.M.)
Cases:
Mr. H. C. Samuel: Case for Diagnosis.
Dr. H. Semon: Sarcoid.
Dr. H. W. Barber: (1) Multiple Epitheliomata of the Skin (2 cases); (2) Parapsoriasis.
Mr. J. E. R. McDonagh: Xanthoma (Diabetic).
Paper:
Dr. Prosser White: Bakers' Eczema: a Clinical and Experimental Inquiry.

SOCIAL EVENING: at 8.30 P.M.
Fellows, Members of Sections, and their friends will be received by the President, Sir StClair Thomson, at 8.30 P.M.
Dr. W. T. Grenfell, C.M.G. (Labrador) will give a brief discourse on Medicine in a Corner of the Empire (with lantern illustrations) at 9.30 P.M.

Friday, Oct. 17th.

ELECTRO-THERAPEUTICS: at 8.30 P.M.
Presidential Address:
Dr. Stanley Melville: "Taking Stock."

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY, Oct. 13th.—8 P.M., Annual General Meeting. 8.30 P.M., Ordinary Meeting. Dr. E. M. Callender: President's Address on Medical Memories.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.
Lecture arranged by the FELLOWSHIP OF MEDICINE and open to all members of the medical profession. Friday, Oct. 17th, 5.30 P.M.: Cancer of the Bladder, by Mr. J. Swift Joly.—CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C. Special Intensive Course in Laryngology, Rhinology, and Otology, beginning on Monday, Oct. 13th.—BETHLEM ROYAL HOSPITAL, St. George's-fields, S.E. Lecture Demonstrations on Tuesday and Thursday, at 11 A.M., by Dr. Porter Phillips and Dr. Thomas Beaton.—LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, Endsleigh-gardens. Tuesday and Thursday, Clinical Demonstration on Tropical Medicine, at 2 P.M., by Dr. G. C. Low and Dr. Manson-Bahr.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.
SATURDAY, Oct. 18th.—4 P.M., Sir Archibald Garrod: Harveian Oration.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn-fields, W.C.
FRIDAY, Oct. 17th.—5 P.M., Prof. Arthur Keith: Museum Demonstration: Specimens illustrating Evolution of the Human Heart.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.
MONDAY, Oct. 13th.—12 noon, Mr. Simmonds: Applied Anatomy. 2 P.M., Dr. Scott Pinchin: Medical Out-patients. 2 P.M., Mr. Bishop Harman: Eye Dept.
TUESDAY.—11 A.M., Mr. Endean: Venereal Diseases. 12 noon, Dr. Burrell: Chest Cases. 2 P.M., Mr. Sinclair: Surgical Out-patients.
WEDNESDAY.—12.15 P.M., Dr. Burnford: Medical Pathology. 2 P.M., Dr. Owen: Medical Out-patients. 2 P.M., Dr. Pernet: Skin Dept.
THURSDAY.—11 A.M., Mr. Simson: Gynæcological Ward Visit. 12 noon, Medical Registrar: Clinical Methods. 2 P.M., Mr. MacDonald: Genito-Urinary Dept.
FRIDAY.—10 A.M., Mr. Simson: Gynæcological Operations. 12 noon, Surgical Registrar: Surgical Pathology. 2 P.M., Mr. Vlasto: Throat, Nose, and Ear Dept.
SATURDAY.—9.30 A.M., Dr. Burnford: Bacterial Therapy. 10 A.M., Dr. Saunders: Diseases of Children. 10 A.M., Mr. Banks-Davis: Operations on Throat, Nose, and Ear.
Daily, 10 A.M. to 6 P.M., Saturdays, 10 A.M. to 1 P.M., In-patients, Out-patients, Operations, Special Departments.

KING'S COLLEGE HOSPITAL LISTERIAN SOCIETY.
WEDNESDAY, Oct. 15th.—8.30 P.M., Inaugural Address at King's College Hospital by Prof. Sir StClair Thomson: Shakespeare as an Aid to the Art and Practice of Medicine.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS POST-GRADUATE COURSE, Victoria Park, E.
MONDAY, Oct. 13th, to FRIDAY, Oct. 17th, mornings and afternoons.
WEDNESDAY.—3.30 P.M., Dr. A. Goodman Levy: (*a*) General Anæsthesia in Tuberculosis; (*b*) the Significance of Cyanosis in Pulmonary Disease.
FRIDAY.—2 P.M., Lantern Lecture, Dr. Clive Riviere: Artificial Pneumothorax Treatment and its Complications.

HOSPITAL FOR SICK CHILDREN, Great Ormond-st., W.C.
THURSDAY, Oct. 16th.—4 P.M., Dr. Harrison: Interpretation of Sugars.

ST. JOHN'S HOSPITAL, Leicester-square, W.C.
TUESDAY, Oct. 14th.—5 P.M., Dr. S. E. Dore: Physiology.
THURSDAY.—5 P.M. Dr. J. M. H. MacLeod: Morphology and Histopathology of Elementary Lesions.

UNIVERSITY OF LIVERPOOL POST-GRADUATE LECTURES. (At 3.30 P.M.)
WEEK COMMENCING OCT. 13TH.—At the Children's Hospital: Dr. Murray Bligh: Common Forms of Mental Defect in Children, with cases. At the Southern Hospital: Dr. Macalister: Rheumatism and Some Rheumatoid Conditions. At the Northern Hospital: Dr. Cunningham: Pernicious Anæmia. At the Stanley Hospital: Mr. Heaney: Circulatory Diseases of the Extremities. At the Royal Infirmary: Mr. Litler Jones: Surgical Cases.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE LECTURES.
TUESDAY, Oct. 14th.—4.15 P.M., Dr. A. Ramsbottom: Differentiation of Anæmias.
FRIDAY.—4.15 P.M., Prof. R. B. Wild: The Treatment of Pain.

ROYAL INSTITUTE OF PUBLIC HEALTH, Russell-square, W.C.
(Course of Lectures on the Health of the Commonwealth.)
WEDNESDAY, Oct. 15th.—4 P.M., Sir William Milligan: Physique in Relation to National Efficiency.

Appointments.

MUSSEN, A. A., M.D. Dub., D.P.H. Camb., has been appointed Medical Officer of Health for the City of Liverpool in place of Dr. E. W. Hope, retired.
OVERTON, SIBYL GERTRUDE, M.B., B.S. Lond., D.P.H., an Inspector of Factories and Workshops.
WEBB, BEATRICE, M.D., Medical Officer to the Women's Training Department, University of London.
WELLS, A. Q., M.B., B.Ch. Oxf., Certifying Surgeon under the Factory and Workshop Acts for the Eyam District of the county of Derby.
Manchester Royal Infirmary: NEWELL, R. L., F.R.C.S. Eng., Surgical Tutor; HICKSON, S. K., M.B., Ch.B. Manch., M.R.C.P. Lond., Second Medical Registrar; KAHN, Miss, M.B., Ch.B. Manch., Clinical Assistant.

Vacancies.

For further information refer to the advertisement columns.

Birmingham, Queen's Hospital.—Third P. for Out-patients. £50.
Bristol Royal Infirmary.—Hon. Dermatologist and Hon. Asst. S. to Ear, Nose, and Throat Dept.
Central London Throat, Nose, and Ear Hospital, Gray's Inn-road, W.C.—Res. H.S. £75.
City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, E.—H.P. for six months. £62 10*s.*
Durham County Council Education Committee.—Asst. Sch. M.O. £600.
Durham, Richard Murray Hospital, Blackhill.—Res. M.O. £400.
East London Hospital for Children and Dispensary for Women, Shadwell, E.—Morning and Afternoon Cas. O.'s at rate £120. H.S. at rate £125. Also Res. M.O. £200.
Gloucestershire Mental Hospitals, Coney-hill, Barnwood.—Jun. Asst. M.O. £350.
Hospital for Consumption and Diseases of the Chest, Brompton, S.W.—Asst. Res. M.O. for six months. £75. Also H.P. £50.
Hospital for Epilepsy and Paralysis, Maida Vale, W.—Med. Reg. £100.
Johannesburg, S. African Institute for Medical Research.—Bacteriologist.
London Hospital Dental School, E.—Hon. Anæsthetist.
London Temperance Hospital, Hampstead-road, N.W.—Med. Reg. 40 guineas.
Manchester Babies Hospital, Burnage-lane, Levenshulme.—Res. M.O. for six months at rate £125.
Metropolitan Hospital, Kingsland-road, E.—Sen. H.P. and H.S., Jun. H.P. and H.S., two Cas. O.'s for six months. Each £50. Also Asst. P.
Monmouthshire County Council.—Two Asst. M.O.'s. £500.
Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—Anæsthetist. £25.
Queensland Government.—Director of Laboratory of Microbiology, &c., Dept. of Public Health, Brisbane. £750.
Royal Chest Hospital, City-road, E.C.—P.
Royal Free Hospital, Gray's Inn-road, W.C.—Med. Reg. £250.
Royal Naval Medical Service.—Surg. Lieuts. 25*s.* per day.
Royal Waterloo Hospital for Children and Women, Waterloo-road, S.E.—Hon. S. and Hon. Gynæcologist for Out-patients.
St. Thomas's Hospital.—Pathologist. £500.
Stoke-on-Trent, North Staffordshire Infirmary.—Jun. H.P. £125.
Victoria Hospital for Children, Tite-street, Chelsea, S.W.—Cas. O. and R. £150.
Wednesbury, Borough of.—M.O.H., &c. £800.
West Ham County Borough, Dagenham Sanatorium.—Asst. Res. M.O. £350.
Westminster Hospital, Broad Sanctuary, S.W.—P. for Dis. of Children.

The Chief Inspector of Factories, Home Office, London, S.W., announces the following vacant appointments: Mevagissey, Cornwall; Westbury, Wiltshire; Haworth, Yorks (W.R.).

Births, Marriages, and Deaths.

BIRTHS.

BRIDGE.—On Sept. 29th, the wife of Capt. G. A. Bridge, M.C., R.A.M.C., Southsea-terrace, Portsmouth, of a daughter.
JONES.—On Sept 17th, the wife of W. Henry Jones, M.B., B.S. Lond., South Hackney, of a son.
JUDSON.—On Sept. 28th, the wife of Dr. J. E. Judson, of Portscatho, Cornwall, of a son.
SPONG.—On Sept. 15th, at Exmouth, the wife of Major W. A. Spong, R.A.M.C., of a daughter (stillborn).

MARRIAGES.

HARRIES—DICKSON.—On Sept. 30th, at St. Paul's Church, Bournemouth, Ivor Ewart Harries, M.R.C.S., L.R.C.P. Lond., to Norah Constance, younger daughter of Colonel W. D. Dickson, J.P., and Mrs. Dickson, of Southill, Dean Park, Bournemouth, formerly of Kildimo House, Co. Limerick.
KNOWLES—INMAN.—On Oct. 1st, at Christ Church, Hampstead, Squadron-Leader R. H. Knowles, M.D., D.P.H., Royal Air Force, to Gladys Eyre, youngest daughter of Mr. and Mrs. Henry Reid Inman, The Grange, Hampstead Heath.
RAMSEY—JARVIS.—On Sept. 25th, at Oadby Parish Church, Leicester, George Alexandar Ramsey, M.D., of London, Ontario, to Elsie Clara, daughter of Mr. and Mrs. W. G. Jarvis, Clivedon, Manor-road, Leicester.
SOADY—HUGO.—On Oct. 1st, at the Church of the Holy Cross, Crediton, Devon, William Henry Soady, L.R.C.P. & S.I., of Crediton, to Gladys Katherine Hugo, only daughter of the late Edward Hugo, M.R.C.S., L.R.C.P., of Gillingham, Kent.
WILSON—BRAXTON PERRES.—On Oct. 1st, at Marylebone Parish Church, Ronald Edmund Wilson, M.R.C.S., L.R.C.P., to Rosaleen Helen, younger daughter of the late Robert Braxton Perres, of Staplers, Isle of Wight.

DEATHS.

BAKER.—On Oct. 4th, at Cecily House, Aylesbury, John Charles Baker, M.B., M.R.C.S., late Surgeon Captain, 2nd Bucks Battalion, O. and B.L.I., aged 62 years.
HARPER.—On Oct. 4th, at Adrian-square, Westgate-on-Sea, Robert Russell Harper, L.R.C.P. Lond., M.R.C.S. Eng., in his 71st year.
PARKIN.—On Oct. 1st, at Carnaby Chalet, Cardigan-road, Bridlington, Alfred Parkin, M.S., M.D. Lond., F.R.C.S.
RUSSELL.—On Oct. 4th, at Downview-road, Worthing, George Ireland Russell, M.R.C.S., L.S.A., of Gravesend and N. Zealand, in his 86th year.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Comments, and Abstracts.

"HEALTH WEEK."

"HEALTH WEEK," which is just over, would now appear to have become an established institution. As in previous years, the opportunity was taken of calling the attention of the general public to some of the more fundamental principles of health. The Health Week Committee issued for the occasion a number of "sermonettes," or rather texts for sermons, on such topics as coal smoke and health, with notes on the Public Health (Smoke Abatement) Bill now before the House of Lords; the Sunlight League formed in May, 1924; the value of fruit and vegetables; the care of the teeth, and so on. Education of public opinion on these and similar matters is apt to be a somewhat slow process, but the committee wisely insisted on the value of health teaching in schools. It may be recalled that at a conference of headmasters, held last December, a resolution was passed to the effect that it was desirable that some systematic teaching on the subject of hygiene should form part of the instruction of every boy and every girl during their time at school, thus laying a solid foundation in health knowledge for the whole nation. The efforts of the Health Week Committee, under the chairmanship of Prof. A. Bostock Hill, are deserving of the cordial support of the medical profession.

During the week Mr. Arthur Greenwood, M.P., Parliamentary Secretary of the Ministry of Health, gave an address at Stepney in which he attributed the considerable decline in the general death-rate and especially in the infant mortality-rate in recent years to the work of the public health service. He stated that during last year the amount of sickness and disablement amongst insured persons for which benefit was paid totalled 20½ million weeks or 394,000 years. Unemployment due to sickness was no less than a third of the unemployment arising from bad trade. Over twice as much time was lost last year through sickness as from industrial disputes. And even these appalling figures did not disclose the whole truth as they did not include the first three days of sickness for which no benefit was paid, nor the sickness amongst uninsured workers, and they omitted the loss of working power owing to premature deaths.

NEW OPEN SPACES FOR LONDON.

IN THE LANCET of Sept. 20th, p. 609, we commented on the broader outlook that is being taken from the health point of view with regard to London's parks and open spaces, and evidence of further progress in this direction comes from the work of the Metropolitan Public Gardens Association. At a meeting of this Association on Oct. 1st, at Denison House, Vauxhall Bridge-road, the Earl of Meath, the chairman, presiding, it was stated that the Open Spaces Bill promoted by the Association and other bodies had passed second reading in the House of Commons, and that a Bill to extend powers to plant trees in arterial and other roads had been introduced by the Ministry of Transport. A report was received that the laying out of Princes-square, Stepney, to which the Association largely contributed, had been completed and that the ground had been opened to the public. It was stated that Middlesex County Council had granted £5000, the balance of the amount required towards the purchase of 31½ acres of woodland at Ken Wood. Progress was reported in regard to schemes to acquire as public open spaces areas on Shooters Hill and Streatham Common, also the laying out and opening of Boston Manor Park, Brentford. Attention was drawn to the proposed removal of Bethlem Hospital from its present site in Southwark, and it was regarded as most important that steps should be taken to secure at least some portion of its site for public use.

YEAR-BOOK OF SCIENTIFIC AND LEARNED SOCIETIES.

WE received some time ago from Messrs. Charles Griffin and Co., Ltd. (Exeter-street, Strand, London, W.C.), a copy of the fortieth annual issue of the Year-book of the Scientific and Learned Societies of Great Britain and Ireland (389 pages, price 15s.). This is a record of the work done in science, literature, and art during the session 1922–23 by numerous societies and Government institutions, compiled from official sources. It was hoped when the year-book was founded 40 years ago that it would become in time the trusted desk-companion of the scientific worker as well as of the industrialist (in the widest possible sense) who wished to keep in touch with the advances made in his particular industry; this aim has been rendered possible by setting out from year to year the titles of papers read before scientific institutes throughout the kingdom. Such a list is of value in showing the direction which current research is taking, and the reader will not be led astray by errors or omissions, for on every page of the year-book is the mark of careful and thoughtful editing. We have greater confidence in making this comment as the book has intentionally lain on the library table for a number of weeks in order to test its accuracy and comprehensiveness. It is the more indispensable now that the Joint Board of Scientific Societies, after a brief existence, has ceased its operations. Conducted on its present lines this year-book will continue to fill a useful place on the shelves of the reference library.

OBSTINATE CONSTIPATION.

To the Editor of THE LANCET.

SIR,—I should be grateful if any of your readers would suggest appropriate treatment for the following case. The patient is a boy, aged 3 years, with a history of chronic constipation. He has recurrent rises of temperature and at times the rectum is prolapsed. Patient has been in the habit of taking two tablespoonfuls of liquid paraffin per day, but obtains a motion only every other day. He has now been put on a mixture containing sod. sulph., tr. bellad., and infus. sennæ, three times a day, before food. He is also given Nujol twice a day and one teaspoonful of cascara cordial at night. Abdominal massage has also been tried, but the bowels are still obstinate and prolapse recurs at times.

I am, Sir, yours faithfully,

Oct. 6th, 1924. CLINICAL.

EMOTIONAL ARREST OF HÆMORRHAGE.

To the Editor of THE LANCET.

SIR,—An instance of what I take to be secretion of adrenalin as a result of stimulation by anger or fear may prove of interest to some of your readers. Whilst on a wild-fowling holiday in Ireland recently, I had a conversation with a gamekeeper who was apparently in great demand locally as a trimmer of fighting-cocks. Part of this trimming consists in cutting the comb—a process attended by considerable hæmorrhage. As soon as the comb is cut, the practice is to bring another fighting-cock near the first, when in most cases the bleeding stops. He added that, if the bleeding did not cease, the opinion was formed that the bird in question would never make a fighting-cock owing to lack of "spirit."

I am, Sir, yours faithfully,

Oct. 6th, 1924. SPORTIVUS.

GREEN APPLES.

To the Editor of THE LANCET.

SIR,—With reference to your article last week discussing the cause of colic following the consumption of green apples, I think the mechanical theory there outlined must be substantially the correct one so far as unripe fruit goes. Much of the pain of dyspepsia is located in the pylorus, and the passage of hard lumps of material of any sort through the pylorus causes the characteristic "cannon-ball" sensation; the same sensation is often experienced when a duodenal tube is being passed. Green apples would, of course, be very difficult to disintegrate; the same fruit when cooked has no such effect, so that the pain must be the result of mechanical and not chemical condition of the food. The question might arise, "Why do not green apples cause pain in all cases?" The answer is that the motility of the pylorus and its sensitivity are not always the same. The best condition for pain would be a highly motile and sensitive pyloric canal. Usually these two would go together. The same applies to the intestine.

I am, Sir, yours faithfully,

C. LOVATT EVANS.

Physiological Laboratory, St. Bartholomew's Medical College, E.C., Oct. 6th, 1924

AN UNGRATEFUL PATIENT.

A SOUTH AFRICAN correspondent informs us that at the Barberton Criminal Sessions, Transvaal, on Sept. 11th, a native named Sebob Fanee was sentenced to death for murdering a native witch doctor named Magesa, and Magesa's son, aged 10. As a motive for the crime it was asserted that Fanee resented a request by the witch doctor for a beast in payment of doctoring services rendered. It was also stated that another witch doctor and his wife had instigated the crime.

Burns.—It is difficult to say why the use of ambrine in the treatment of burns has almost died out. One reason may be that to get good results it is necessary to carry out a special technique, perfectly simple, but still special. It is easy to heat the stuff too hot and so make things worse than they were. Its ideal use is where there is a large series of cases to deal with, all of which can be treated in exactly the same way.

D. A. H.—So far as we know, there is no institution in London where treatment of cardiovascular cases is given on strict Nauheim lines. Such a clinic existed before the war, where this and other forms of physical treatment were administered under medical supervision. Various forms of effervescing bath are available for home use.